

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL ☒ DEEPEN ☐

1b. TYPE OF WELL

OIL GAS SINGLE MULTIPLE  
WELL ☒ WELL ☐ OTHER ☐ ZONE ☒ ZONE ☐

2. NAME OF OPERATOR

Inland Production Company

3. ADDRESS OF OPERATOR

410 - 17th Street, Suite 700, Denver, CO 80202

Phone: (303) 893-0102

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*)

At Surface SW/NE

2085' FNL & 2203' FNL FEL

At proposed Prod. Zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

14.2 miles southeast of Myton, Utah

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY  
OR LEASE LINE, FT. (Also to

Approx. 2085' f/lse line

16. NO. OF ACRES IN LEASE

1760

17. NO. OF ACRES ASSIGNED TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL,  
DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT.

Approx. 1320'

19. PROPOSED DEPTH

6500'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

5145.9' GR

22. APPROX. DATE WORK WILL START\*

2nd 9712 01

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT/FOOT	SETTING DEPTH	QUANTITY OF CEMENT
Refer to Monument Butte Field SOP's Drilling Program/Casing Design				

Inland Production Company proposes to drill this well in accordance with the attached exhibits.

Draft Conditions of Approval are attached.

Federal Approval of this  
Action is Necessary

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM : If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone.  
If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

TITLE

Permitting Agent

DATE

2/27/01

(This space for Federal or State office use)

PERMIT NO.

43-013-32232

APPROVAL DATE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY

TITLE

BRADLEY G. HILL  
RECLAMATION SPECIALIST III

DATE

03-15-01

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\*See Instructions On Reverse Side

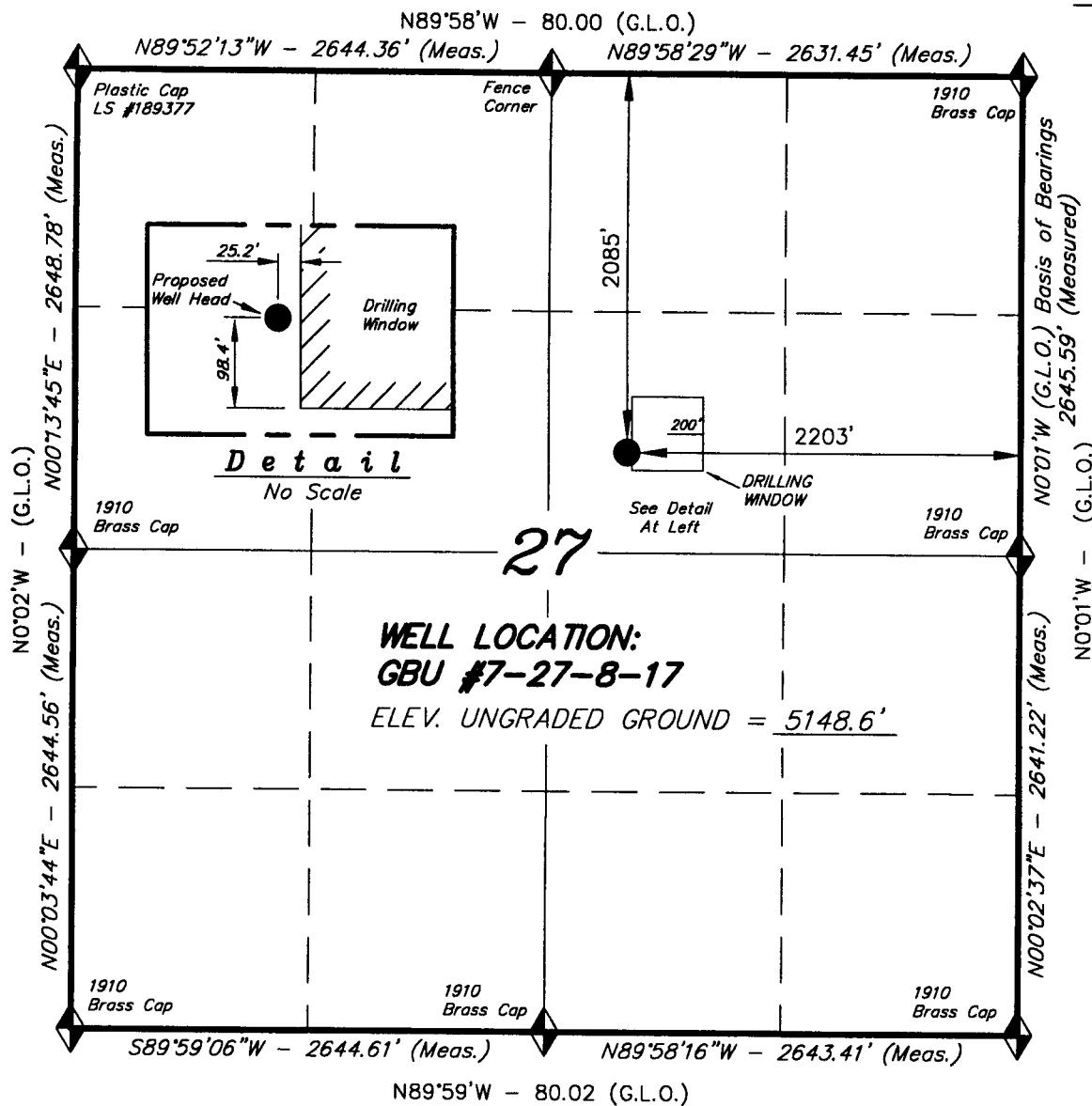
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

MAR 09 2001

DIVISION OF  
OIL, GAS AND MINING

**T8S, R17E, S.L.B.&M.**

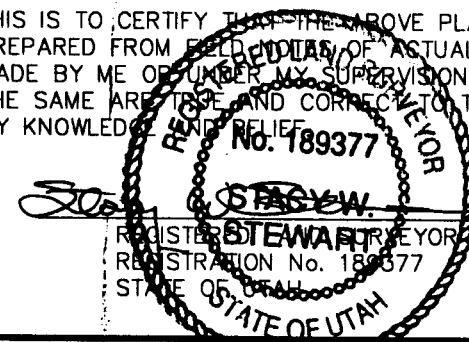
**INLAND PRODUCTION COMPANY**



WELL LOCATION, GREATER BOUNDARY UNIT #7-27-8-17, LOCATED AS SHOWN IN THE SW 1/4 NE 1/4 OF SECTION 27, T8S, R17E, S.L.B.&M. DUCHESNE COUNTY, UTAH.

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THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



◆ = SECTION CORNERS LOCATED

BASIS OF ELEV; U.S.G.S. 7-1/2 min QUAD (PARIETTE DRAW SW)

**TRI STATE LAND SURVEYING & CONSULTING**  
 38 WEST 100 NORTH - VERNAL, UTAH 84078  
 (435) 781-2501

SCALE: 1" = 1000'	SURVEYED BY: C.D.S. R.J.
DATE: 1-12-01	WEATHER: COLD
NOTES:	FILE #

# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:  
3160  
(UT-922)

March 14, 2001

### Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2001 Plan of Development Greater Boundary  
Unit Duchesne County, Utah.

Pursuant to email between Lisha Cordova, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management. The following wells are planned for calendar year 2000 within the Greater Boundary Unit, Duchesne County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ Green River)		
43-013-32228	GBU 1-27-8-17	Sec. 27, T8S, R17E 0733 FNL 0726 FEL
43-013-32229	GBU 2-27-8-17	Sec. 27, T8S, R17E 0660 FNL 1980 FEL
43-013-32230	GBU 4-27-8-17	Sec. 17, T8S, R17E 0660 FNL 1285 FWL
43-013-32231	GBU 6-27-8-17	Sec. 27, T8S, R17E 1804 FNL 1996 FWL
43-013-32232	GBU 7-27-8-17	Sec. 27, T8S, R17E 2085 FNL 2203 FEL
43-013-32233	GBU 8-27-8-17	Sec. 27, T8S, R17E 1889 FNL 0624 FEL
43-013-32234	GBU 9-27-8-17	Sec. 27, T8S, R17E 2189 FSL 0909 FEL
43-013-32235	GBU 10-27-8-17	Sec. 27, T8S, R17E 2269 FSL 2171 FEL

This office has no objection to permitting the well at this time.

/s/ Michael L. Coulthard

bcc: File - Greater Boundary  
Division of Oil Gas and Mining  
Agr. Sec. Chron  
Fluid Chron

Mcoulthard:mc:3-14-1



March 5, 2001

State of Utah  
Department of Natural Resources  
Division of Oil, Gas and Mining  
ATTN: Lisha Cordova  
P.O. Box 145601  
Salt Lake City, UT 84114-5801

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**DIVISION OF  
OIL, GAS AND MINING**

**RE: Applications for Permits to Drill**

Dear Lisha:

Please find attached Applications for Permits to Drill (APDs) the following wells:

Greater Boundary Unit #1-27-8-17  
Greater Boundary Unit #2-27-8-17  
Greater Boundary Unit #4-27-8-17  
Greater Boundary Unit #6-27-8-17  
Greater Boundary Unit #7-27-8-17  
Greater Boundary Unit #8-27-8-17  
Greater Boundary Unit #9-27-8-17  
Greater Boundary Unit #10-27-8-17

Note that the #4-27-8-17, #7-27-8-17, #9-27-8-17, and #10-27-8-17 require exceptional spacing due to topographic constraints (See the site-specific topographic maps in each APD for details). None of the proposed well locations for these exception locations encroaches less than 660' within the Unit or Lease boundary.

Please send approved APDs to Brad Mecham at Inland's field office in Pleasant Valley. Contact me at (970) 481-1202 if you have any questions or require additional information. Thank you for your assistance with these APDs.

Respectfully,

Jon D. Holst  
Permitting Agent  
Inland Production Company



Well No.: 7-27-8-17

CONDITIONS OF APPROVAL  
APPLICATION FOR PERMIT TO DRILL

Company/Operator: Inland Production Company

Well Name & Number: Greater Boundary 7-27-8-17

API Number:

Lease Number: UTU-76241

Location: SWNE Section 27, T8S R17E

**GENERAL**

Access well location from the west, off of the access road for the 6-27-8-17 well location.

**CULTURAL RESOURCES**

See *CONDITIONS OF APPROVAL FOR INLAND RESOURCES MONUMENT BUTTE-MYTON BENCH WATERFLOOD ENVIRONMENTAL ASSESSMENT DUCHESNE AND UINTAH COUNTIES, UTAH EA NUMBER 1996-61.*

**PALEONTOLOGICAL RESOURCES**

See *CONDITIONS OF APPROVAL FOR INLAND RESOURCES MONUMENT BUTTE-MYTON BENCH WATERFLOOD ENVIRONMENTAL ASSESSMENT DUCHESNE AND UINTAH COUNTIES, UTAH EA NUMBER 1996-61.*

**SOILS, WATERSHEDS, AND FLOODPLAINS**

See *CONDITIONS OF APPROVAL FOR INLAND RESOURCES MONUMENT BUTTE-MYTON BENCH WATERFLOOD ENVIRONMENTAL ASSESSMENT DUCHESNE AND UINTAH COUNTIES, UTAH EA NUMBER 1996-61.*

**WILDLIFE AND FISHERIES**

See *CONDITIONS OF APPROVAL FOR INLAND RESOURCES MONUMENT BUTTE-MYTON BENCH WATERFLOOD ENVIRONMENTAL ASSESSMENT DUCHESNE AND UINTAH COUNTIES, UTAH EA NUMBER 1996-61.*

**THREATENED, ENDANGERED, AND OTHER SENSITIVE SPECIES**

See *CONDITIONS OF APPROVAL FOR INLAND RESOURCES MONUMENT BUTTE-MYTON BENCH WATERFLOOD ENVIRONMENTAL ASSESSMENT DUCHESNE AND UINTAH COUNTIES, UTAH EA NUMBER 1996-61. (See below)*

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**MOUNTAIN PLOVER:** If new construction or surface disturbing activities are scheduled to occur between April 1 and August 15, detailed surveys of the area within 0.5 mile of the proposed location and within 300 feet of proposed access routes must be conducted to detect the presence of mountain plovers. All surveys must be completed prior to initiating new construction or surface disturbing activities (see Survey Protocol COAs EA Number 1996-61).

#### **OTHER**

Installation of the surface gas pipeline and any subsequent buried gas or water pipelines will follow the conditions of approval outlined above.

Except as specified in the APD, the installation of the surface gas line and any subsequent buried pipelines will follow the edge of the existing roadways without interfering with the normal travel and maintenance of the roadway.

The installation of any buried pipelines will disturb as little surface as possible and will not exceed 60 feet in width. Reclamation of the water line area will be completed within 10 days after installation. The surface will be recontoured to natural or near natural contours. Reseeding will be with the same seed mixture specified for reclamation of the well site. The interface of the buried line disturbance area and the edge of any adjacent access roads will be constructed with a borrow ditch and road berm to minimize vehicular travel along the water line route.

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INLAND PRODUCTION COMPANY  
GREATER BOUNDARY #7-27-8-17  
SW/NE SECTION 27, T8S, R17E  
DUCHESNE COUNTY, UTAH

ONSHORE ORDER NO. 1

**DRILLING PROGRAM**

1. **GEOLOGIC SURFACE FORMATION:**

Uinta formation of Upper Eocene Age

2. **ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS:**

Uinta	0' – 1640'
Green River	1640'
Wasatch	6500'

3. **ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS OR MINERALS:**

Green River Formation 1640' – 6500' - Oil

4. **PROPOSED CASING PROGRAM**

Please refer to the Monument Butte Field Standard Operation Procedure (SOP).

5. **MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:**

Please refer to the Monument Butte Field SOP. See Exhibit "F".

6. **TYPE AND CHARACTERISTICS OF THE PROPOSED CIRCULATION MUDS:**

Please refer to the Monument Butte Field SOP.

7. **AUXILIARY SAFETY EQUIPMENT TO BE USED:**

Please refer to the Monument Butte Field SOP.

8. **TESTING, LOGGING AND CORING PROGRAMS:**

Please refer to the Monument Butte Field SOP.

9. **ANTICIPATED ABNORMAL PRESSURE OR TEMPERATURE:**

The anticipated maximum bottom hole pressure is 2000 psi. It is not anticipated that abnormal temperatures will be encountered.

10. **ANTICIPATED STARTING DATE AND DURATION OF THE OPERATIONS:**

Please refer to the Monument Butte Field SOP.

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INLAND PRODUCTION COMPANY  
GREATER BOUNDARY #7-27-8-17  
SW/NE SECTION 27, T8S, R17E  
DUCHESNE COUNTY, UTAH

ONSHORE ORDER NO. 1

MULTI-POINT SURFACE USE & OPERATIONS PLAN

1. EXISTING ROADS

See attached Topographic Map "A"

To reach Inland Production Company well location site Greater Boundary #7-27-8-17 located in the SW 1/4 NE 1/4 Section 27, T8S, R17E, Duchesne County, Utah:

Proceed southwesterly out of Myton, Utah along Highway 40 - 1.6 miles  $\pm$  to the junction of this highway and UT State Hwy 53; proceed southerly along Hwy 53 - 9.1 miles  $\pm$  to the beginning of the proposed access road to the east; proceed east and then south 3.5 mile  $\pm$  along the proposed access road to the proposed well location.

2. PLANNED ACCESS ROAD

See Topographic Map "B" for the location of the proposed access road.

3. LOCATION OF EXISTING WELLS

Refer to Exhibit "D".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

Please refer to the Monument Butte Field Standard Operating Procedure (SOP).

5. LOCATION AND TYPE OF WATER SUPPLY

Please refer to the Monument Butte Field SOP. See Exhibit "C".

6. SOURCE OF CONSTRUCTION MATERIALS

Please refer to the Monument Butte Field SOP.

7. METHODS FOR HANDLING WASTE DISPOSAL

Please refer to the Monument Butte Field SOP.

8. ANCILLARY FACILITIES

Please refer to the Monument Butte Field SOP.

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9. **WELL SITE LAYOUT**

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

10. **PLANS FOR RESTORATION OF SURFACE**

Please refer to the Monument Butte Field SOP.

11. **SURFACE OWNERSHIP** - Bureau Of Land Management

12. **OTHER ADDITIONAL INFORMATION**

The Archaeological and Paleontological Resource Surveys for this area are attached.

Inland Production Company requests a 60' ROW for the Greater Boundary #7-27-8-17 to allow for construction of a 6" gas gathering line, and a 3" poly fuel gas line. Both lines will tie in to the existing pipeline infrastructure. **Refer to Topographic Map "C."**

Inland Production Company also requests a 60' ROW be granted for the Greater Boundary #7-27-8-17 to allow for construction of a 3" steel water injection line and a 3" poly water return line. **Refer to Topographic Map "C."**

13. **LESSEE'S OR OPERATORS REPRESENTATIVE AND CERTIFICATION**

Representative

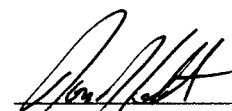
Name: Jon Holst  
Address: 2507 Flintridge Place  
Fort Collins, CO 80521  
Telephone: (970) 481-1202

Certification

Please be advised that INLAND PRODUCTION COMPANY is considered to be the operator of well #7-27-8-17 SW/NE Section 27, Township 8S, Range 17E: Lease UTU-76241 Duchesne County, Utah: and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond coverage is provided by Hartford Accident #4488944.

I hereby certify that the proposed drillsite and access route have been inspected, and I am familiar with the conditions which currently exist; that the statements made in this plan are true and correct to the best of my knowledge; and that the work associated with the operations proposed here will be performed by Inland Production Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

2/27/01  
Date

  
Jon Holst  
Permitting Agent

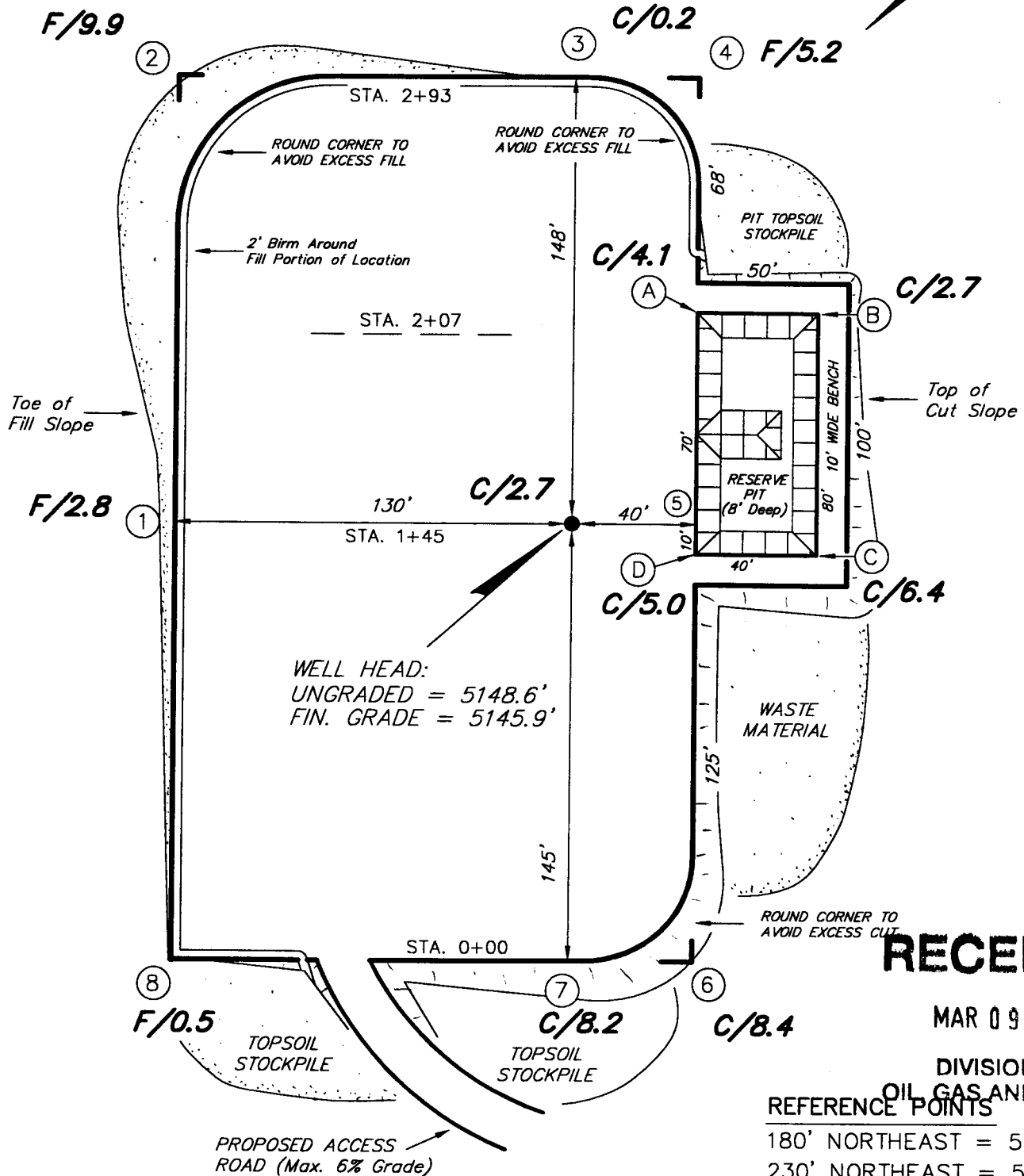
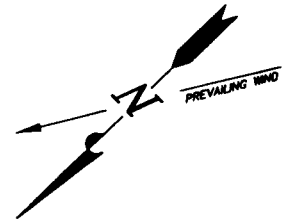
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# INLAND PRODUCTION COMPANY

GBU #7-27-8-17  
SEC. 27, T8S, R17E, S.L.B.&M.



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## REFERENCE POINTS

180' NORTHEAST = 5137.1'  
230' NORTHEAST = 5131.3'  
198' SOUTHEAST = 5135.8'  
248' SOUTHEAST = 5145.7'

SURVEYED BY: R.J.

SCALE: 1" = 50'

DRAWN BY: J.R.S.

DATE: 1-12-01

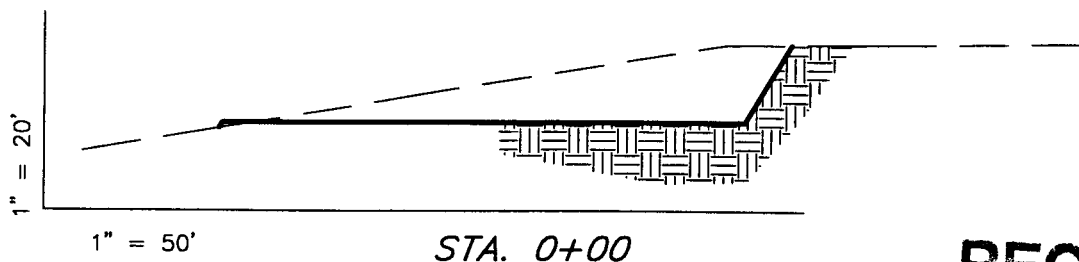
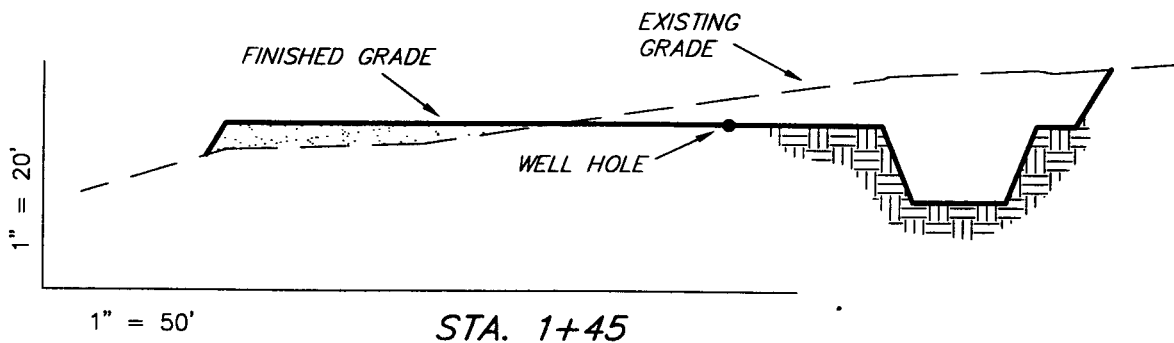
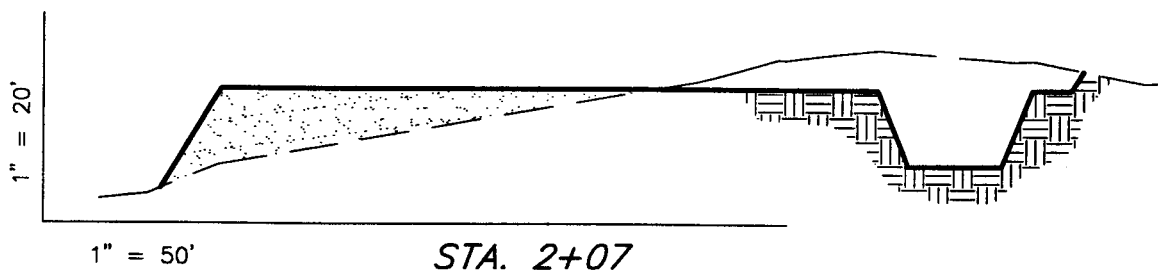
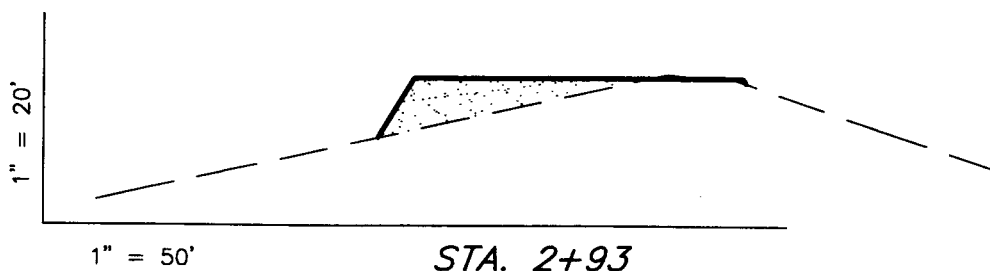
**Tri State**  
Land Surveying, Inc.

(435) 781-2501

38 WEST 100 NORTH VERNAL, UTAH 84078

INLAND PRODUCTION COMPANY  
CROSS SECTIONS

GBU #7-27-8-17



**APPROXIMATE YARDAGES**

CUT = 3,630 Cu. Yds.  
FILL = 3,630 Cu. Yds.  
PIT = 640 Cu. Yds.  
6" TOPSOIL = 1,020 Cu. Yds.

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SURVEYED BY: R.J.

SCALE: 1" = 50'

DRAWN BY: J.R.S.

DATE: 1-12-01

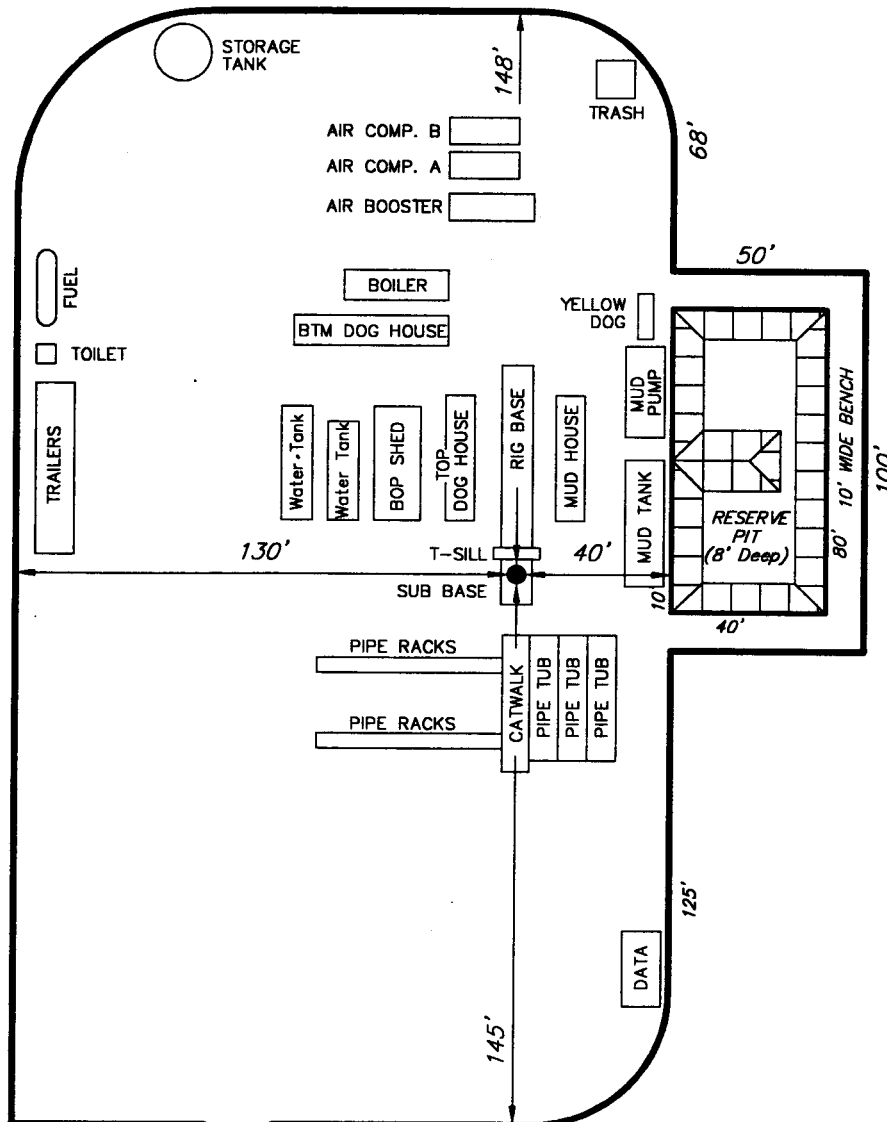
**Tri State**  
Land Surveying, Inc.  
38 WEST 100 NORTH VERNAL, UTAH 84078

(435) 781-2501

# INLAND PRODUCTION COMPANY

## TYPICAL RIG LAYOUT

GBU #7-27-8-17



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PROPOSED ACCESS  
ROAD (Max. 6% Grade)

SURVEYED BY: R.J.

SCALE: 1" = 50'

DRAWN BY: J.R.S.

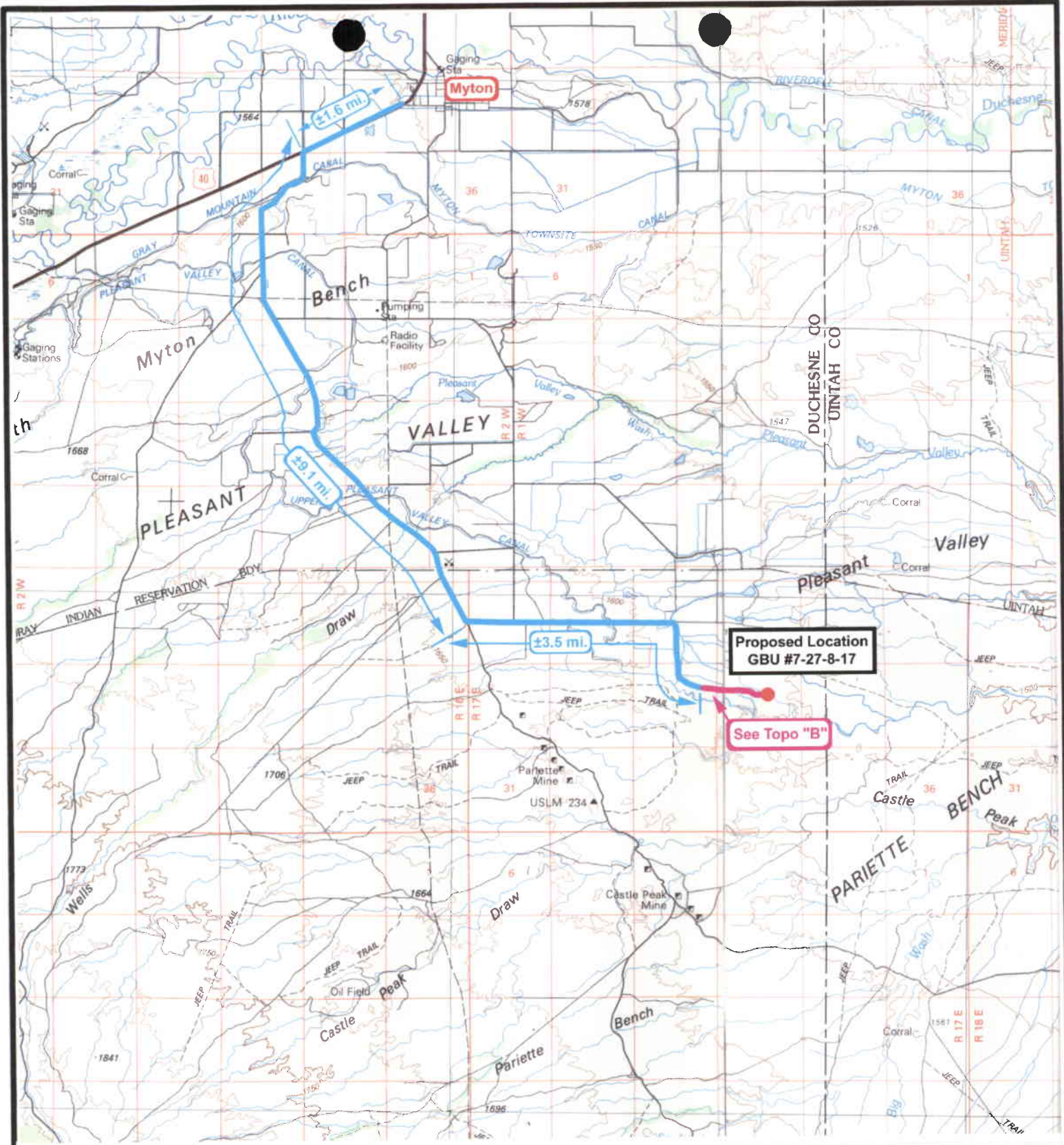
DATE: 1-12-01

**Tri State**  
Land Surveying, Inc.

(435) 781-2501

38 WEST 100 NORTH VERNAL, UTAH 84078





**GREATER BOUNDARY UNIT #7-27-8-17**  
**SEC. 27, T8S, R17E, S.L.B.&M.**  
**TOPOGRAPHIC MAP "A"**

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Drawn By: bgm

Revision:

Scale: 1 : 100,000

File:

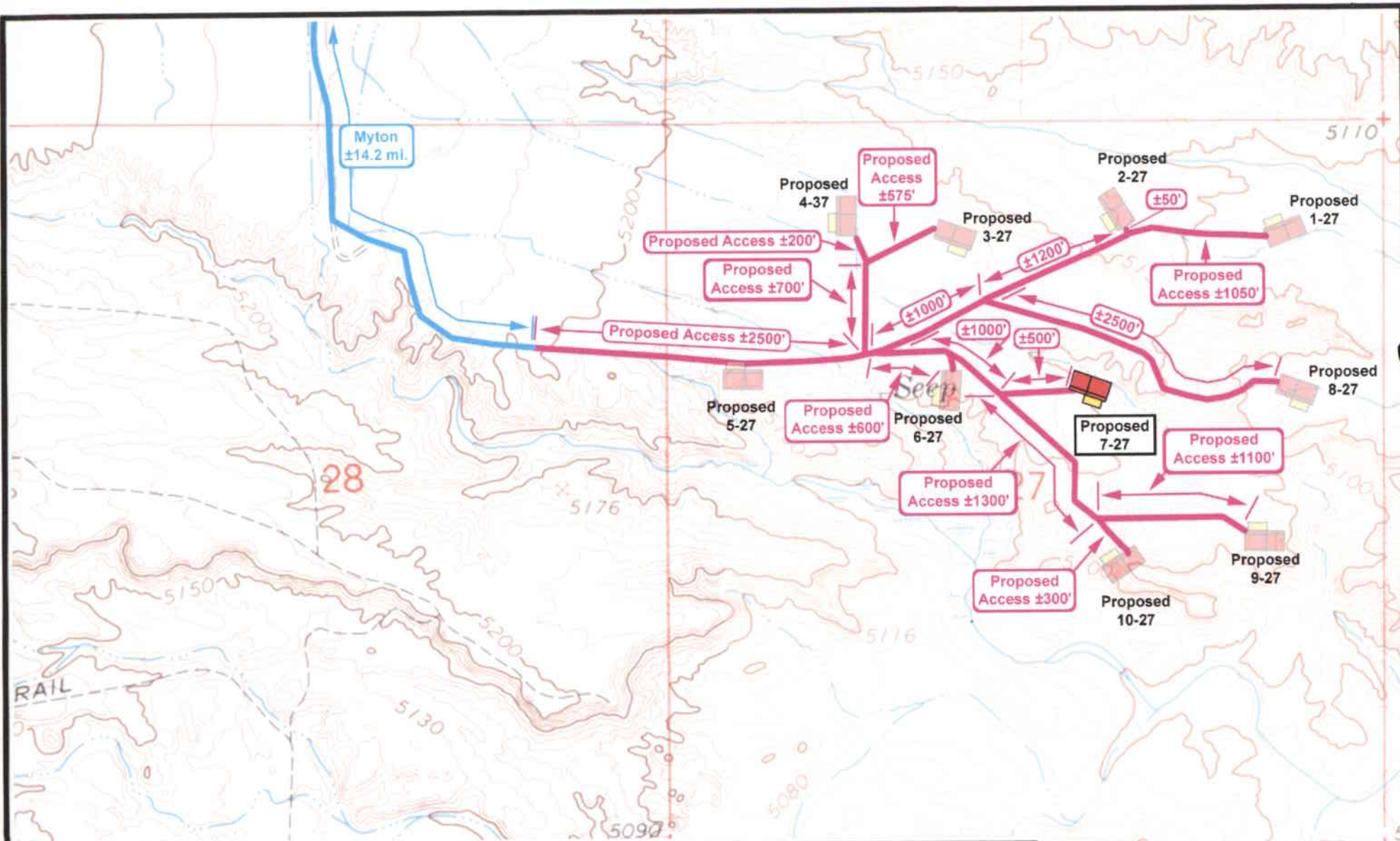
Date: 02-01-2001

Tri-State Land Surveying Inc.

P.O. Box 533, Vernal, UT 84078

435-781-2501 Fax 435-781-2518





**GREATER BOUNDARY #7-27-8-17**  
**SEC. 27, T8S, R17E, S.L.B.&M.**  
**TOPOGRAPHIC MAP "B"**

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Drawn By: bgm

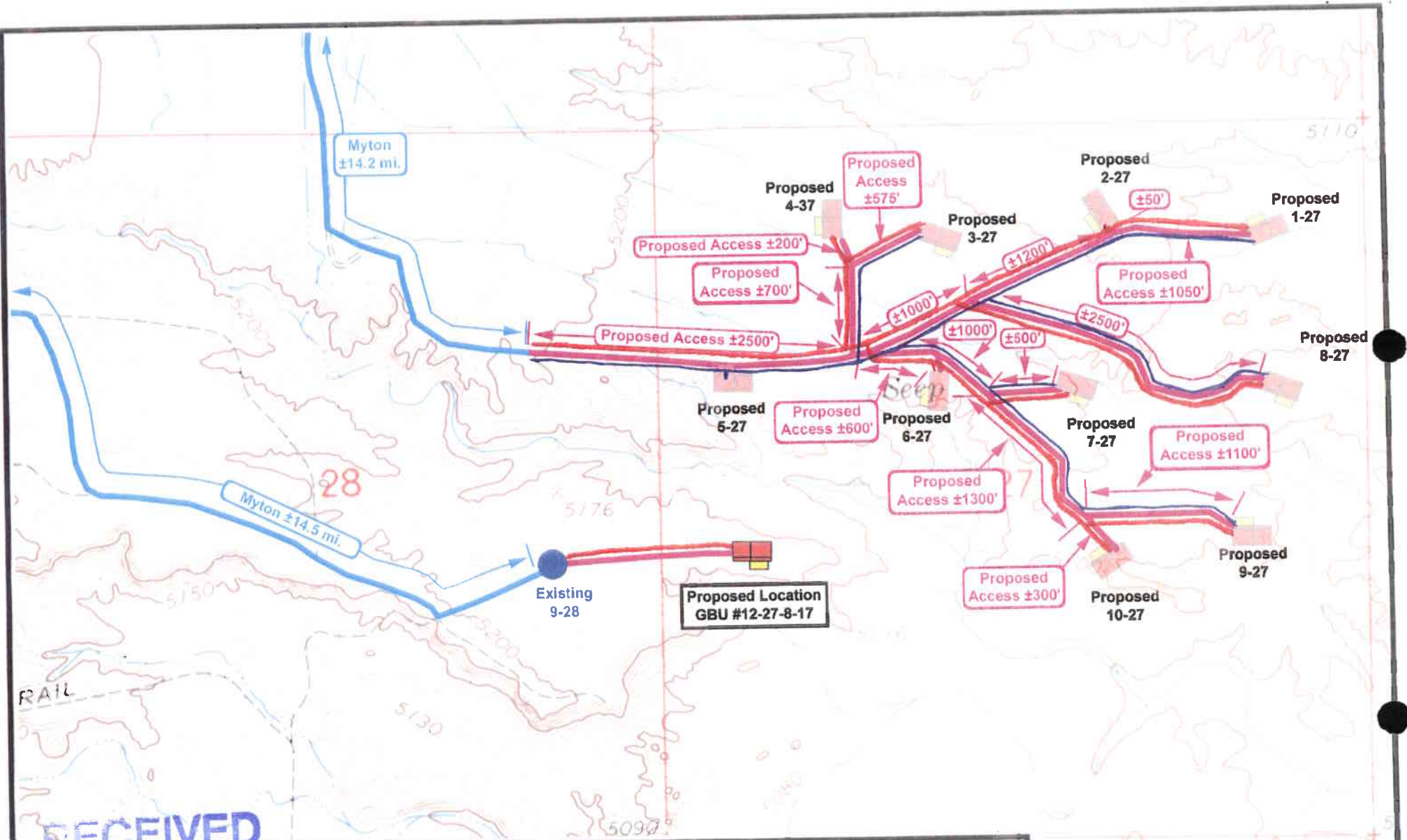
Revision:

Scale: 1" : 1000'

File:

Date: 01-29-2001

**Tri-State Land Surveying Inc.**  
**P.O. Box 533, Vernal, UT 84078**  
**435-781-2501 Fax 435-781-2518**



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# Proposed Gas and Water Pipelines

Greater Boundary Unit Section 27, T8S, R17E

Topographic Map "C"

— = GAS PIPELINE      — = WATER PIPELINE

Drawn By: bgm

Revision:

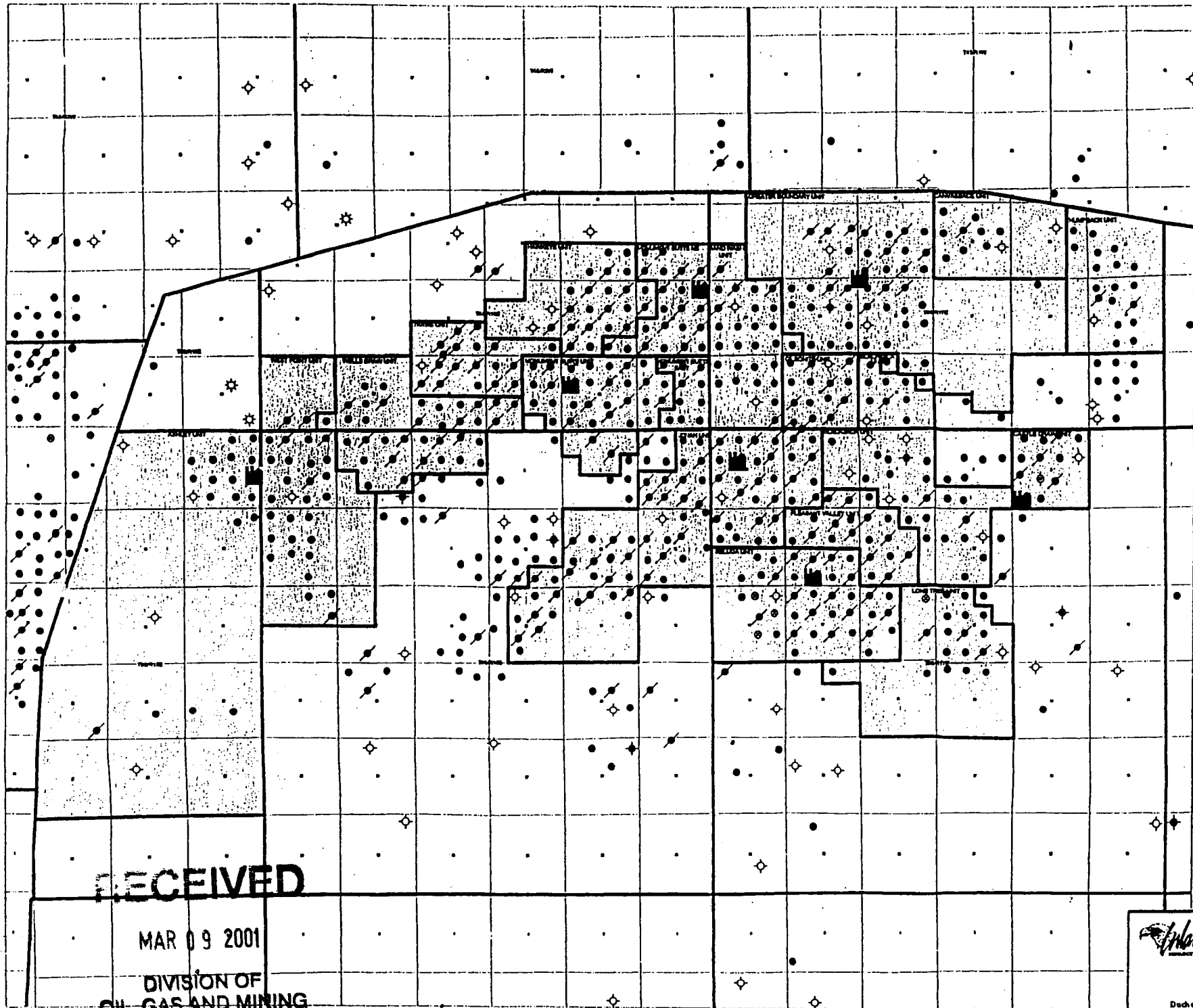
Scale: 1" : 1000'

File:

Date: 02-08-2001

Tri-State Land Surveying Inc.  
P.O. Box 533, Vernal, UT 84078  
435-781-2501 Fax 435-781-2518

# EXHIBIT "C"



## Well Categories

- INJ
- WTR
- SWD
- OIL
- GAS
- DRY
- SHUTIN
- SUSPENDED
- ABND
- Injection Stations
- Unit Sections

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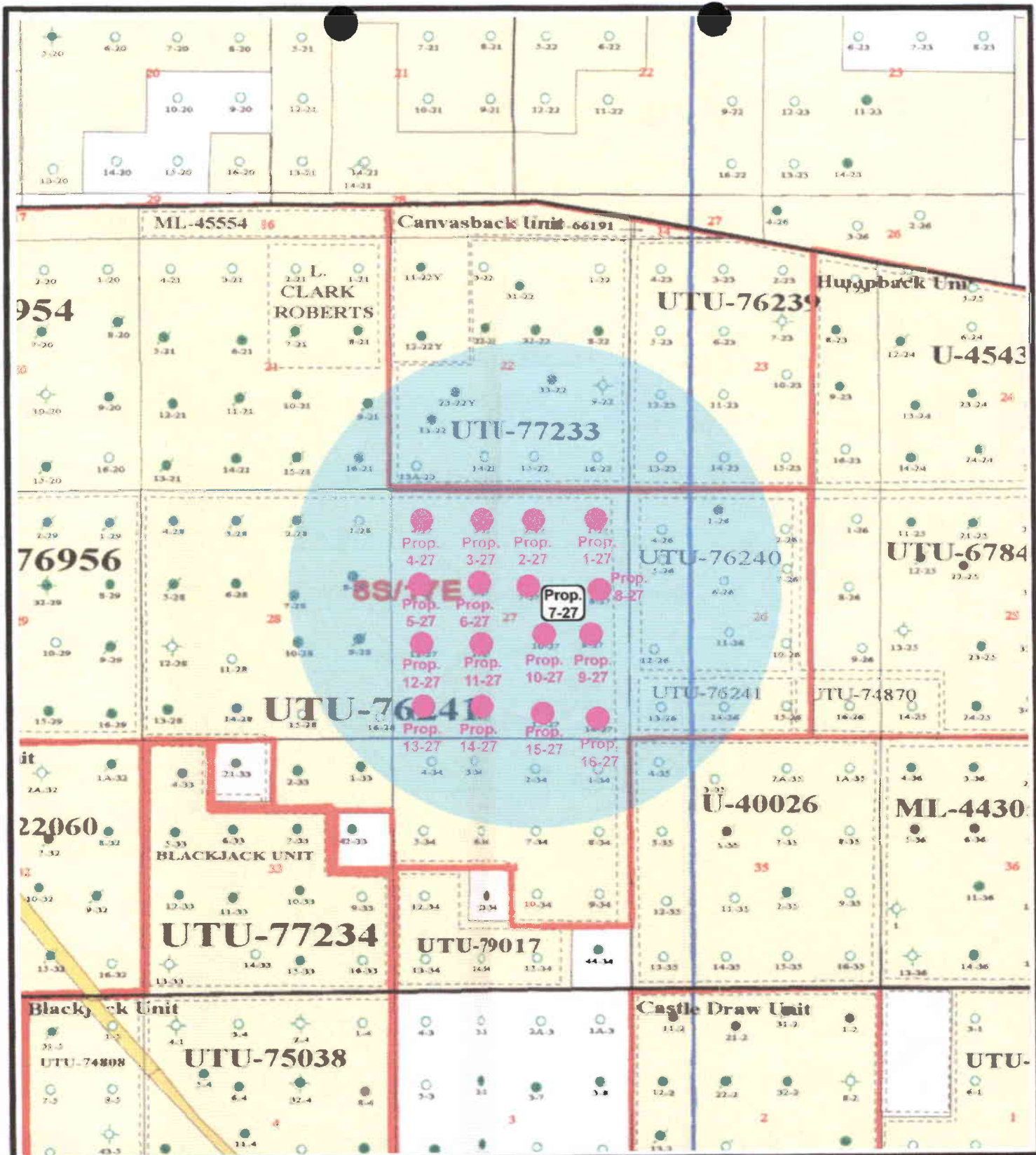
4017 1/2 West 3rd Ave. 300  
Denver, Colorado 80202  
Phone: (303) 891-0102

UINTA BASIN

Duchenne & Uintah Counties, Utah

0.5 0 0.5 Miles





**GREATER BOUNDARY UNIT #7-27-8-17  
SEC. 27, T8S, R17E, S.L.B.&M.**

**TOPOGRAPHIC MAP "C"**

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**MAR 09 2001**

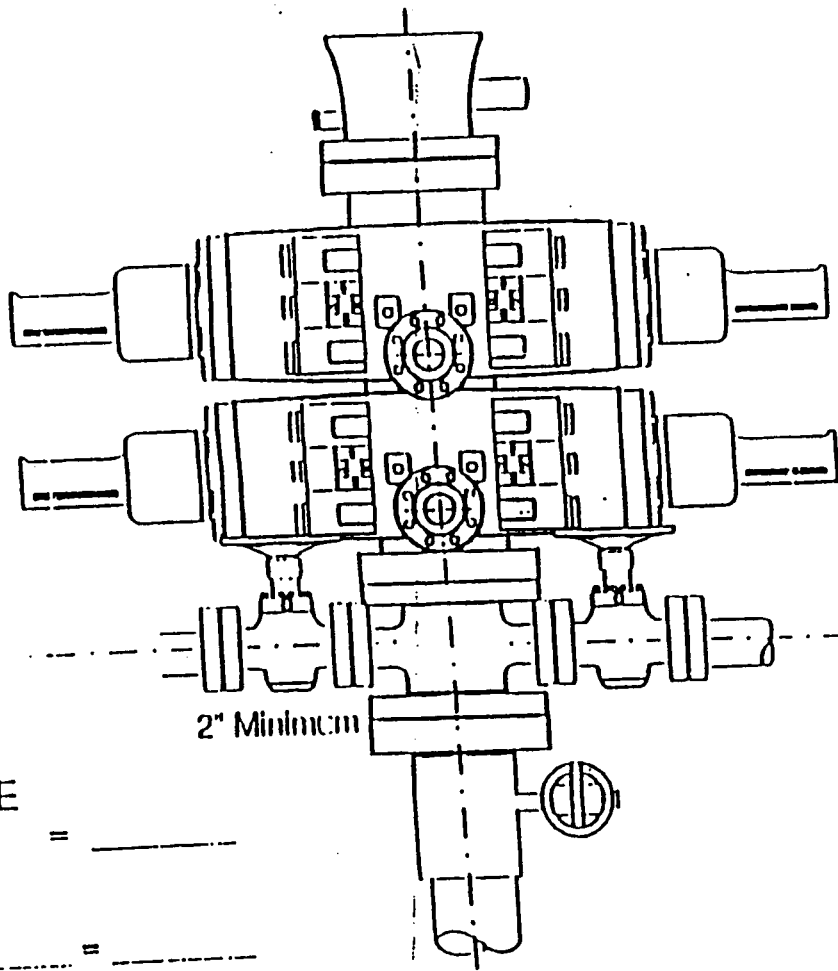
**DIVISION OF  
OIL, GAS AND MINING**

Drawn By: bgm	Revision:
Scale:	File:
Date: 01-05-2001	
Tri-State Land Surveying Inc. P.O. Box 533, Vernal, UT 84078 435-781-2501 Fax 435-781-2518	

**EXHIBIT D**

B.O.P.

## 2-M SYSTEM



2" Minimum

O CLOSE

ar BOP

ype BOP

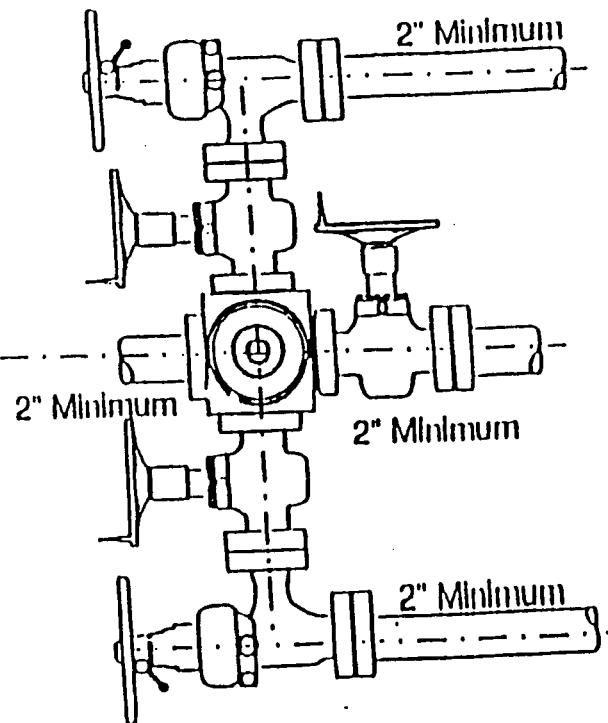
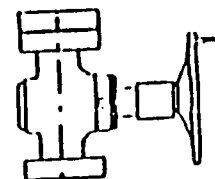
rams x

=

=

= Gal.

x 2 = Total Gal.



2" Minimum

2" Minimum

2" Minimum

2" Minimum

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EXHIBIT F

Adding oil to the next higher  
segment of 10 gal. would require  
Gal. (total fluid & nitro volume)

CULTURAL RESOURCE INVENTORY OF INLAND PRODUCTION'S  
WELLS DRAW 760 ACRE PARCEL  
IN PLEASANT VALLEY, DUCHESNE COUNTY, UTAH

by

Keith R. Montgomery  
and  
Sarah Ball

Prepared For:

Bureau of Land Management  
Vernal Field Office

Prepared Under Contract With:

Inland Production Company  
2507 Flintridge Place  
Fort Collins CO 80521

Prepared By:

Montgomery Archaeological Consultants  
P.O. Box 147  
Moab, Utah 84532

December 12, 2000

MOAC Report No. 00-102

United States Department of Interior (FLPMA)  
Permit No. 00-UT-60122

State of Utah Antiquities Project (Survey)  
Permit No. U-00-MQ-0731b

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## ABSTRACT

In November, 2000, a cultural resource inventory of a 760 acre parcel for well development including access roads and pipelines was performed by Montgomery Archaeological Consultants for Inland Production. The project area is situated in the Pleasant Valley region of the Uintah Basin, in the Wells Draw vicinity and includes four inventory areas; a 40 acre in the NE1/4 of the NE1/4 of Sec. 27, T 8S, R 16E; a forty acre in the SW1/4 of the SW1/4 of Sec. 23, T 8S, R 16E; a 40 acre in the NE1/4 of the SW1/4 of 23, T 8S, R 16E; and a 640 acre in Sec. 27, T 8S, R 17E. A total of 760 acres was inventoried for cultural resources located on public lands administered by the Bureau of Land Management (BLM), Vernal Field Office.

The archaeological survey resulted in the documentation of four historic temporary camps (42Dc1321, 42Dc1322, 42Dc1323, and 42Dc1324), two prehistoric temporary camps (42Dc1325 and 42Dc1355), six prehistoric lithic scatters (42Dc1347, 42Dc1348, 42Dc1349, 42Dc1350, 42Dc1353, and 42Dc1354), one prehistoric lithic and ceramic scatter (42Dc1352), one multi-component site consisting of a prehistoric lithic scatter and historic trash scatter (42Dc1351), and 17 isolated finds of artifacts (IF-A through IF-Q). Five of these sites are recommended as eligible to the NRHP: 42Dc1325, 42Dc1347, 42Dc1348, 42Dc1351, and 42Dc1355. Site 42Dc1325 is a prehistoric temporary camp with a fire cracked rock feature. Sites 42Dc1347 and 42Dc1348 are lithic scatters located in aeolian dunes. Site 42Dc1351 is a lithic scatter and historic trash scatter, also located on aeolian dunes. Site 42Dc1355 is a prehistoric temporary camp with two hearth features. All of these sites are recommended as eligible under criterion (D), due to the potential for buried cultural remains. Additional investigations at the site could provide significant data concerning site function, chronology, subsistence, and material culture.

Four historic sites, 42Dc1321, 42Dc 1322, 42Dc1323 and 42Dc1324 represent temporary range camps having a limited range of cultural materials. Additional investigations at these sites would fail to provide information relevant to historic research domains of the area. The prehistoric sites, 42Dc1349, 42Dc1350, 42Dc1352, 42Dc1353 and 42Dc1354 are recommended as not eligible for NRHP inclusion since they have an absence of additional diagnostic artifacts or features. Further research of these sites would not provide pertinent information to the prehistory of the area. The isolated finds of artifacts are also considered not eligible to the NRHP since they lack additional research potential.

The eligible sites (42Dc1325, 42Dc1347, 42Dc1348, 42Dc1351 and 42Dc1355) need to be avoided by future development within the parcels. Based on adherence to this recommendation, a determination of "no historic properties affected" is recommended for this project pursuant to Section 106, CFR 800.

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## INTRODUCTION

In November 2000, a cultural resource inventory was conducted by Montgomery Archaeological Consultants (MOAC) for Inland Production's Wells Draw 760 Acre Parcel in Pleasant Valley, Duchesne County, Utah. The project area is proposed for well development, access roads and pipelines. The survey was implemented at the request of Mr. John Holst, Permitting Agent, Inland Production Company. The project area occurs on land administered by the Bureau of Land Management (BLM), Vernal Field Office.

The objective of the inventory was to locate, document and evaluate any cultural resources within the project area pursuant to a determination of "no effect" to historic properties in accord with Section 106 of 36 CFR 800, the National Historic Preservation Act of 1966 (as amended). Also, the inventory was implemented to attain compliance with a number of federal and state mandates, including the National Environmental and Historic Preservation Act of 1969, the Archaeological and Historic Conservation Act of 1972, the Archaeological Resources Protection Act of 1979 and the American Indian Religious Freedom Act of 1978.

The fieldwork was performed by Keith R. Montgomery, Principal Investigator for Montgomery Archaeological Consultants, aided in the field by Stan Ferris, Jay Willans, and Michael Wolfe. The inventory was conducted under the auspices of U.S.D.I. (FLPMA) Permit No. 00-UT-60122 and State of Utah Antiquities Project (Survey) No. U-00-MQ-0731b.

A file search for previous projects and documented cultural resources was conducted by Keith Montgomery at the BLM Vernal Field Office on October 30, 2000 and at the Utah Division of State History on November 3, 2000. These consultations indicated that no archaeological projects have been conducted in the immediate project area. However, various archaeological projects have been completed nearby. Archeological-Environmental Research Corporation (AERC) completed two surveys for Equitable Resources Energy Company in 1996, in T 9S, R 16E, Sec. 1 and 2, and T 8S, R 17E, Sec. 36, locating no new cultural resources (Hauck 1996a; 1996b). In 1997 AERC conducted an inventory for Inland Production in T 9S, R 17E Sec. 15 and 22, locating no cultural resources (Hauck and Hadden 1997). Sagebrush Consultants performed an inventory in 1997 for Inland Production in T 8S, R 17E, Sec. 28 and 29, documenting six prehistoric sites (42Dc1134 through 42Dc1139) and one historic site (42Dc1140) (Ellis 1997). In 1998 Sagebrush conducted another survey for Inland Production in T 9S, R 17E, Sec 3 and 10, locating two prehistoric sites (42Dc1191 and 42Dc1192), and one historic site (42Dc1190) (Polk 1998). JBR Environmental Consultants completed a survey for Inland Resources in 1998 situated in T 9S, R 17E, Sec. 1, locating no archaeological sites (Crosland and Billat 1998). In 1998 AERC performed an inventory for Inland Resources in several nearby sections, documenting 28 prehistoric sites (42Dc1149, 42Dc1150, 42Dc1155 through 42Dc1166, 42Dc1171, 42Dc1174 through 42Dc1177, 42Un 2532 through 42Un2538, 42Un2552, 42Un2566) (Hauck 1998). In summary, no archaeological sites have been documented in the immediate project area, however, a number of inventories near the project area have been performed, resulting in the documentation of both prehistoric and historic cultural resources.

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## DESCRIPTION OF PROJECT AREA

### Environmental Setting

The project area lies in the Pleasant Valley area of the Uinta Basin, to the south of Myton, Utah. The inventory area consists of a 760 acre parcel, allocated for development of well locations, access roads and pipelines. Three adjoining 40 acre parcels occur to the southeast of Wells Draw, approximately 6.5 miles southwest of Myton, Utah. The legal description for these parcels is T 8S, R 16E, Sections 23 and 27 (Figure 1). A 640 acre parcel lies about 4.5 miles to the east of this, along both sides of a tributary of Pariette Draw. The legal description for this parcel is T 8S, R 17E, Section 27 (Figure 2). Topographically, this area consists of highly dissected sandstone and mudstone rock formations and broad sandy silt ridges (Stokes 1986). The elevation ranges from 5550 to 5020 feet a.s.l. Pariette Draw is a major water source in the area, as is Wells Draw although it is ephemeral. The project area lies within the Upper Sonoran life zone, dominated by a shadscale community intermixed with low sagebrush, snakeweed, prickly pear cactus and a variety of low grasses. A riparian zone exists along the washes, and includes cottonwood, Russian olive, cattail, and tamarisk. Modern disturbances to the landscape include well locations, access roads, pipelines, and livestock grazing.

### Cultural Overview

The cultural-chronological sequence represented in the study area includes the Paleoindian, Archaic, Fremont, Protohistoric, and Euro-American stages. The earliest inhabitants of the region are representative of the Paleoindian stage (ca. 12,000-8,000 B.P.). This stage is characterized by the adaptation to terminal Pleistocene environments and by the exploitation of big game fauna. The presence of Paleoindian hunters in the Uinta Basin region is implied by the discovery of Clovis and Folsom fluted points (ca. 12,000 B.P. - 10,000 B.P.), as well as the more recent Plano Complex lanceolate points (ca. 10,000 B.P. - 7,000 B.P.). However, no such artifacts have been recovered in stratigraphic or chronometrically controlled contexts in northeastern Utah.

The Archaic stage (ca. 8,000 B.P. - 1,500 B.P.) is characterized by peoples depending on a foraging subsistence strategy, seasonally exploiting a wide spectrum of plant and animal species in different ecozones. The shift to an Archaic lifeway was marked by the appearance of new projectile point types perhaps reflecting the development of the atlatl in response to a need to pursue smaller and faster game (Holmer 1986). In the Uinta Basin, evidence of widespread Early Archaic exploitation is relatively sparse compared to the subsequent Middle and Late Archaic periods. Early Archaic (ca. 6000-3000 B.C.) sites in the basin include sand dune sites and rockshelters clustered mainly in the lower White River drainage as well as along the Green River in the Browns Park and Flaming Gorge (Spangler 1995:373). Projectile points recovered from Uinta Basin contexts include Pinto Series, Humboldt, Elko Series, Northern Side-notched, Hawken Side-notched, Sudden Side-notched and Rocker Base Side-notched points. Excavated sites in the area with Early Archaic components include Deluge Shelter in Dinosaur National Monument, and open campsites along the Green River and on the Diamond Mountain plateau (Spangler 1995:374). The Middle Archaic period (ca. 3000-500 B.C.) is characterized by improved climatic conditions and increased human populations on the northern Colorado Plateau. Several stratified Middle Archaic sites have been excavated and dozens of sites have been documented in the Uinta Basin. Middle Archaic sites in the area reflect cultural influences from the Plains, although a Great Basin and/or northern Colorado Plateau influence is represented in the continuation of the Elko

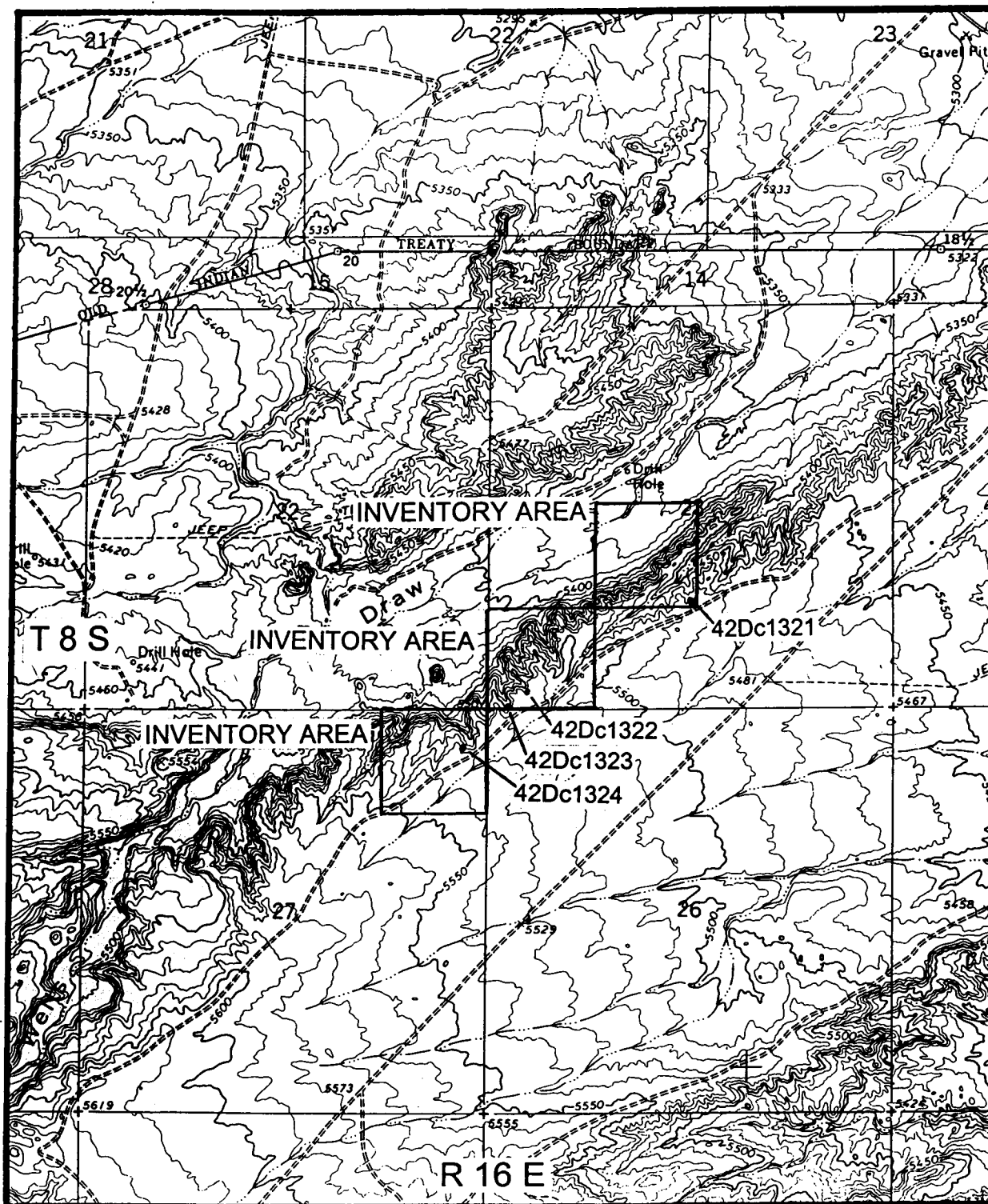


Figure 1. Inventory Area of Inland Production's Wells Draw 760 Acre Parcel in Pleasant Valley with Cultural Resources, Duchesne County, UT. USGS 7.5' Myton SE, UT 1964. Scale 1:24000.

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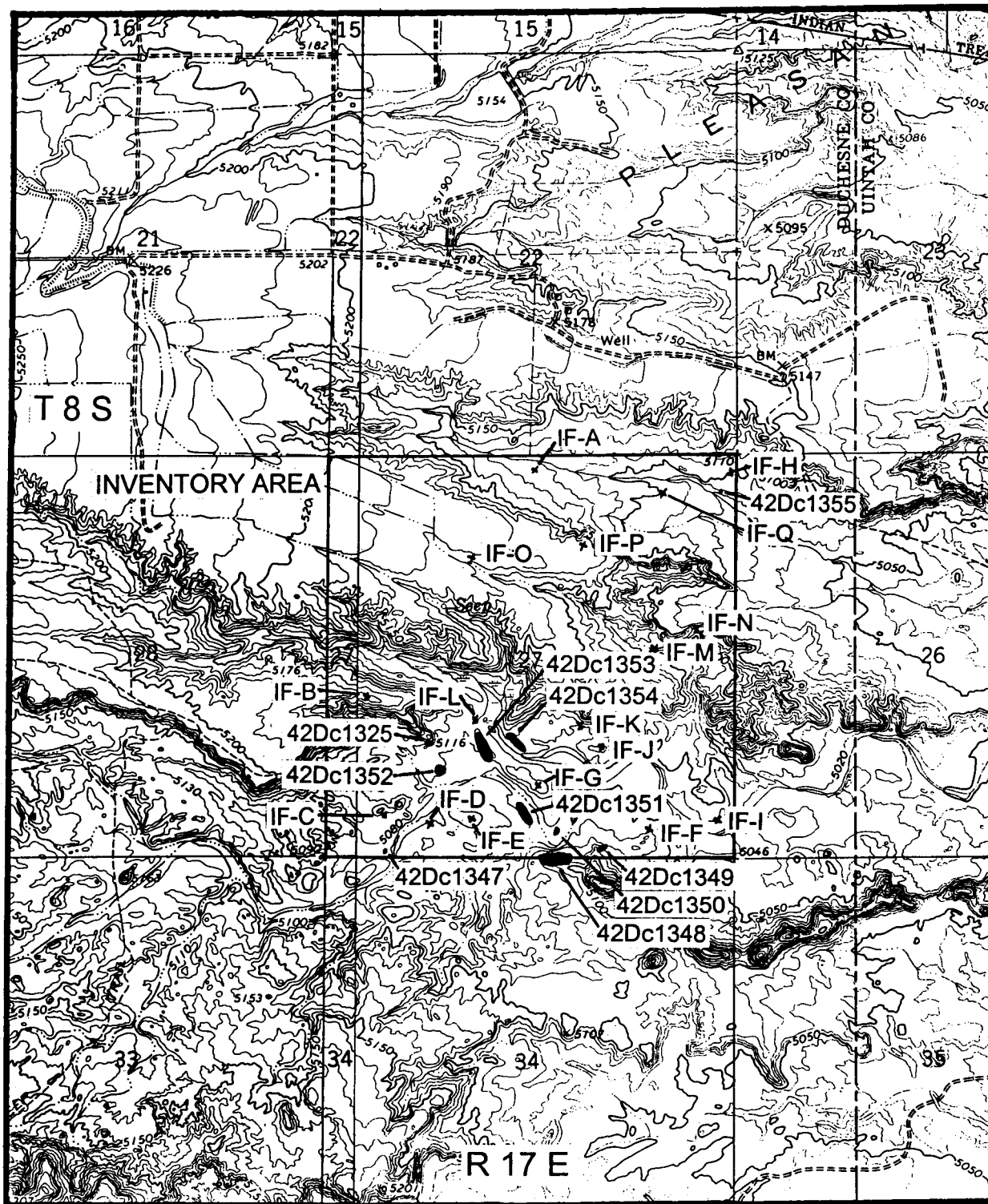


Figure 2. Inventory Area of Inland Production's Wells Draw 760 Acre Parcel in Pleasant Valley with Cultural Resources, Duchesne County, UT. USGS 7.5' Pariette Draw SW, UT 1964. Scale 1:24000.

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Series projectile points. Subsistence data from Middle Archaic components indicate gathering and processing of plants as well as faunal exploitation (e.g., mule deer, antelope, bighorn sheep, cottontail rabbit, muskrat, prairie dog, beaver and birds). The Late Archaic period (ca. 500 B.C.-A.D. 550) in the Uinta Basin is distinguished by the continuation of Elko Series atlatl points with the addition of semi-subterranean residential structures at base camps. By about A.D. 100, maize horticulture and Rose Springs arrow points had been added to the Archaic lifeway. In the Uinta Basin, the earliest evidence of Late Archaic architecture occurs at the Cockleburrr Wash Site (42Un1476) where a temporary structure, probably a brush shelter, yielded a date of 316 B.C. The structure was probably associated with seasonal procurement of wild floral resources gathered along Cliff Creek (Tucker 1986).

The Formative stage (A.D. 500-1300) is recognized in the area by the Uinta Fremont as first termed by Marwitt (1970). This stage is characterized by reliance upon domesticated corn and squash, increasing sedentism, and in its later periods, substantial habitation structures, pottery, and bow and arrow weapon technology. Based on the evidence from Caldwell Village, Boundary Village, Deluge Shelter, Mantles Cave and others, the temporal range of the Uinta Fremont appears to be from A.D. 650 to 950. This variant is characterized by shallow, saucer-shaped pithouse surface structures with randomly placed postholes and off-center firepits, some of which were adobe-rimmed. Traits considered unique or predominate to the Uinta Basin include calcite-tempered pottery, two-handled wide-mouth vessels, Utah type metates, the use of gilsonite for pottery repair, settlement on tops of buttes and large-shouldered bifaces (Shields 1970).

Archaeological evidence suggests that Numic peoples appeared in east-central Utah at approximately A.D. 1100 or shortly before the disappearance of Formative-stage peoples (Reed 1994). The archaeological remains of Numic-speaking Utes consist primarily of lithic scatters with low quantities of brown ware ceramics, rock art, and occasional wickiups. The brown ware ceramics appear to be the most reliable indicator of cultural affiliation, as Desert Side-notched and Cottonwood Triangular points were manufactured by other cultural groups beside the Ute (Horn, Reed, and Chandler 1994:130). The Ute appear to have been hunter and gatherers exploiting various fauna and flora resources. According to macrobotanical and faunal data from dated components deer, elk, pronghorn, bison, and small game were acquired (Reed 1994:191). Plant materials thought to have been exploited for food include goosefoot, grass seeds, pinyon nuts, juniper berries, squawbush berries and leaves, hackberry seeds and possibly saltbush seeds, knotweed, chokecherry, and chickweed (Ibid 191).

The cultural history of the Eastern Ute, comprising the bands living east of the Green River, has been divided into four phases (Reed 1988). The earliest and most tenuous phase is the Chipeta Phase, dated between ca. 1250 and 1400. Diagnostic artifacts include Desert Side-notched, Cottonwood Triangular, and small corner-notched arrow points and possibly Shoshonean knives. The Canalla phase (ca. A.D. 1400-1650) designates the period between the appearance of well-dated Uncompahgre brown ware ceramics and the adoption of an equestrian lifeway. Diagnostic artifacts include Uncompahgre Brown Ware ceramics, Desert Side-notched and Cottonwood Triangular points, and Shoshonean knives. The pedestrian hunter and gatherers probably lived in wickiups. Near the end of the phase, some groups may have obtained trade items from Spanish settlements in New Mexico (Horn, Reed, and Chandler 1994:131). The Antero phase (ca. A.D. 1650-1881) represents a shift to a fully equestrian lifestyle and integration of Euroamerican trade goods into Ute material culture. The horse permitted hunting of bison on the Plains and led to an increase in the importance of raiding for economic gain (Ibid 131). Euroamerican trade goods became important, and tepees as well as wickiups were inhabited.

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The early Utes in Uintah County were Uinta-ats, a small band of a few hundred members (Burton 1996:20). In pre-horse days, Ute family groups lived largely independently of others with key gathering, hunting, and fishing sites being communal and granted to all, within both the local and extralocal Ute communities (Ibid 340). According to Smith's (1974) informants both deer and buffalo were important game for the White River Ute band. Before the buffalo became extinct in the Uintah Basin in the 1830s, the Ute would make trips northeast of Fort Bridger in the vicinity of what is now Rock Springs and Green River, Wyoming using the horse to surround and drive the buffalo over a precipice (Callaway, Janetski, and Stewart 1986; Smith 1974). All Ute groups made tripod or conical houses with a three or four-pole foundation and a circular ground plan some 10 to 15 feet in diameter with covering brush or bark.

The first Euro-Americans in the Uinta Basin were Spanish missionaries, traveling between Santa Fe, New Mexico up through western Colorado, towards the Utah Valley, and on to California. In 1776, under the leadership of Fray Francisco Atanasio Dominguez and Fray Silvestre Velez de Escalante, the Spanish commenced to explore a northern route from Santa Fe to the garrison of Monterey on the California coast (Spangler et al. 1995). Euro-American traders were another early factor in the history of the Uinta Basin. Some of these were Spaniards, who continued to visit the region until the Mexican war of independence in 1821, when most Spanish were expelled from the Southwest. It was the beaver trade in the early part of the nineteenth century, that cemented trade with Ute and Shoshone in the area, and resulted in the establishment of trading posts along the major rivers in the area, including the Duchesne, Green, and Uinta (Spangler et al. 1995).

The settlement of the Uinta Basin differs from that of much of Utah in that early settlement in the area occurred around Indian "agencies" assigned to the Uinta and Ouray Reservations, rather than under the direction of the Mormon church (Spangler et al. 1995). These agencies consisted of cabins and a trading post with farms cropping up around the agency, and were directed by a government Indian agent. The first agency was constructed at the mouth of Daniels Canyon in 1864, and was moved several times before 1868. The Mormon church, under Brigham Young consigned survey parties to the Uinta Basin in the early 1860s, determining that the land was not very suitable for cultivation. For this reason, Mormon occupation of the area occurred later than in many parts of the state. By 1876, only a handful of ranchers, had settled the area, to be joined that year by a group of Mormons. They formed a settlement around the ranch of Pardon Dodds, an Indian agent, located in Dry Fork Canyon; later to become known as Old Ashley Town. Another small group of Mormon settlers arrived in 1878, camping near the confluence of Ashley Creek, and naming their settlement Incline. In 1878, additional Mormon settlers ventured into the area; locating near what is today Vernal. With agrarian pursuits being the focus of the majority of the Mormon communities in the region, water became a leading priority. In 1880 the Rock Point Canal and Irrigation Company built a six-mile long canal from the mouth of Ashley Canyon to various homesteads in the region. The Ashley Upper Irrigation Canal was constructed in 1880 with the purpose of yielding water from the Ashley Creek to Bingham Corner. Settlement increased rapidly, and many different water projects were initiated. Most of the canals and reservoirs in the region were built after 1905 by the Uintah Irrigation Project and the Dry Gulch Irrigation Company (Ibid 809-12).

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## SURVEY METHODOLOGY

An intensive pedestrian survey was performed for this project which is considered 100% coverage. The 760 acre parcel was examined for cultural resources by the archaeologists walking parallel transects spaced no more than 10 m apart. Ground visibility was considered good. A total of 760 acres was inventoried on BLM administered land, Vernal Field Office.

Cultural resources were recorded as an archaeological site or isolated find of artifacts. Archaeological sites were defined as spatially definable areas with features and/or ten or more artifacts. Sites were documented by the archaeologists walking transects across the site, spaced no more than 3 m apart, and marking the locations of cultural materials with pinflags. This procedure allowed clear definition of site boundaries and artifact concentrations. At the completion of the surface inspection, a Brunton compass was employed to point-provenience diagnostic artifacts and other relevant features in reference to the site datum, a steel rebar stamped with a temporary site number. Archaeological sites were plotted on a 7.5' USGS quadrangle, photographed, with site data entered on an Intermountain Antiquities Computer System (IMACS, 1990 version) inventory form (Appendix A). Isolated finds are defined as individual artifacts or light scatter of items, which lack sufficient material culture to warrant IMACS forms, or to derive interpretation of human behavior in a cultural and temporal context. All isolated artifacts were plotted on a 7.5' USGS map and are described in this report.

## INVENTORY RESULTS

The inventory of Inland Production's 760 acre parcel in Pleasant Valley resulted in the documentation of 14 newly-found archaeological sites (42Dc1321, 42Dc1322, 42Dc1323, 42Dc1324, 42Dc1325, 42Dc1347, 42Dc1348, 42Dc1349, 42Dc1350, 42Dc1351, 42Dc1352, 42Dc1353, 42Dc1354, and 42Dc1355), and 17 isolated finds of artifacts (IF-A through IF-Q).

### Archaeological Sites

Smithsonian Site No.: 42Dc1321

Temporary Site No.: 610-3

Legal Description: T 8S, R 16E, Sec. 23

Jurisdiction: BLM, Vernal Field Office

Description: This is a historic temporary camp dating between 1917 and 1945. It consists of a tin can scatter and a concentration of axe-cut wood fragments, possibly representing a firewood pile. The pile measures 4 meters by 2 meters and is located in the western portion of the site. The majority of artifacts are tin cans. These are dominated by hole in top evaporated milk cans. Of these, seven are stamped with "PUNCH HERE" (1935-1945). Eight sanitary cans are observed, including: a cut-around commodity stamped with an oval on the base, a cut-around commodity, a smashed, cut-around commodity with "CANCO" on the base (ca. 1923), a lard bucket, and a pry-lid commodity can. A rectangular pepper can, a key-opened coffee can, a coffee can lid, a piece of 3 1/2" horse tack, some bailing wire, and black rubber shoe sole fragments are also observed. The site occurs in an area of shallow soil and is evaluated as not eligible to the NRHP since it lacks potential for additional functional or temporal information.

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Smithsonian Site No.: 42Dc1322  
Temporary Site No.: 610-4  
Legal Description: T. 8S, R. 16E, Sec. 23  
Jurisdiction: BLM, Vernal District Office

Description: This is a historic temporary camp dating between 1910 and 1950. The majority the artifacts are tin cans. These are dominated by five crushed, hole in top evaporated milk cans with two concentric raised rings on top and four hinged lid tobacco tins. Most of the other cans are sanitary and include: a cut-around commodity can lid; a crushed can fragment stamped with "840813" on the base; a crushed, cut-around sanitary can; a tuna or meat can; a pry-lid baking powder tin with a bail handle; and a 3/4" wide strip of a key-opened coffee can lid. One cut-around, hole in cap can is observed. Nine pieces of glass are noted, including: two rim fragments of a clear glass domestic vessel; three pieces of a small purple vessel of undetermined function; and four pieces of a brown patent medicine bottle with a patent finish and a linear design embossed on the shoulder. Also observed are a 2" long cartridge shell stamped with "Peters 25-36", one piece of bailing wire, a chunk of gilsonite, and a modern aluminum ointment tube with a screw lid. Two possible firewood collection piles are observed. Feature 1 (F-1) is a 7 meter x 8 meter concentration of 75+ pieces of axe-cut juniper wood. Feature 2 (F-2) is a smaller (4 meter x 4 meter) sparse concentration of axe-cut juniper fragments. The site is located in an area of shallow soil and is evaluated as not eligible to the NRHP since it lacks potential for additional functional or temporal information.

Smithsonian Site No.: 42Dc1323  
Temporary Site No.: 610-5  
Legal Description: T 8S, R 16E, Sec. 23  
Jurisdiction: BLM, Vernal Field Office

Description: This is a historic temporary camp consisting of a light scatter of glass and tin cans along with a small concentration of axe-cut juniper pieces, possibly a firewood collection pile. Approximately 30 pieces of clear glass are observed, including 10 fragments of a tubular-shaped Alka-Seltzer container, 10 pieces each of two different small screw finish bottles; one with a rectangular base embossed with "DES Pat 35925" and an unidentified trademark, and the other with a round base. The majority of the tin cans are hinged-lid tobacco tins (n=7). Other tin cans include: a crushed, sanitary, cut-around; a crushed, sanitary cut-around stamped with an oval shape on the top; a crushed, sanitary, cut-around fruit can; and a 1 lb. key-opened coffee can. Also observed are: an alarm clock back, a modern toothpaste tube and four pieces of bailing wire. The site is located in an area of shallow soil and lacks features with potential for depth, and hence is evaluated as not eligible to the NRHP since it lacks potential for additional functional or temporal information.

Smithsonian Site No.: 42Dc1324  
Temporary Site No.: 610-6  
Legal Description: T 8S, R 16E, Sec. 27  
Jurisdiction: BLM, Vernal Field Office

Description: This is a historic temporary camp dating between 1908 and 1945, and consists of a tin can scatter, rock alignment, and firewood pile, along with a few other artifacts. The majority of artifacts are tin cans. These are dominated by 14 evaporated milk cans, four of which are stamped with "PUNCH HERE" (1935-1945). Other tin cans include: four crushed, hinged-lid tobacco tins; a crushed Hershey Cocoa tin with a pry-lid; six cut-around sanitary cans of various

sizes; and three galvanized oil or gas cans with screw-lids and spouts, that have had the bottoms cut out. Also observed are: two pieces of clear window glass; six pieces of bailing wire; a piece of black leather with a round-head nail attached; three pieces of a leather boot including nine eyelets and four fast loops; and a center fire cartridge marked with "WRA Co 44 W.C.F" (post 1908). Feature 1 (F-1) is a rock alignment of unknown function, consisting of two sandstone rocks (20"x15" average size), and a sandstone slab (2" thick). A concentration of small, axe-cut pieces of juniper in an area measuring 4 meters x 3 meters is observed, as is a 8 meter x 16 meter area that exhibits an abundance of weeds, and is notably devoid of native plants, and may have been used for grazing.

Smithsonian Site No.: 42Dc1325  
Temporary Site No.: 610-7  
Legal Description: T 8S, R 17E, Sec. 27  
Jurisdiction: BLM, Vernal Field Office

Description: This is a temporary camp located around an outcrop of large boulders (Figures 3 and 4). The site consists of a fire cracked rock concentration and 29 lithic tools. The majority of tools are unprepared chert cores. Other tools include: four hammerstones, one biface, three Stage I bifaces, three manos or mano fragments, and a slab metate. Also observed are approximately 150 pieces of lithic debitage with all reduction stages common. The materials utilized include various kinds of chert along with siltstone and quartzite. Feature 1 is a concentration of fire cracked rock located on the east side of a large boulder. The feature includes approximately 75 fire cracked and oxidized medium grained sandstone rock fragments (up to 25x15x10cm) scattered in an irregular configuration. No charcoal is visible, however a one meter diameter ash stain is apparent. A shallow (30 cm deep) drainage intersects the east margin of the feature. A petroglyph panel, possibly Archaic, is observed on a large boulder in the central portion of the site (Figure 5). The panel includes two solidly pecked figures, an anthropomorph and an elk, and measures 1.2 meters in length by 78 cm in height. A historic inscription occurs on a large boulder, incised with: "V O NEILSON", "1932", "VICK ROSS", "LEON".



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Figure 3. 42Dc1325. Site overview. Photo is viewed to the southeast. Roll 610/3:11.

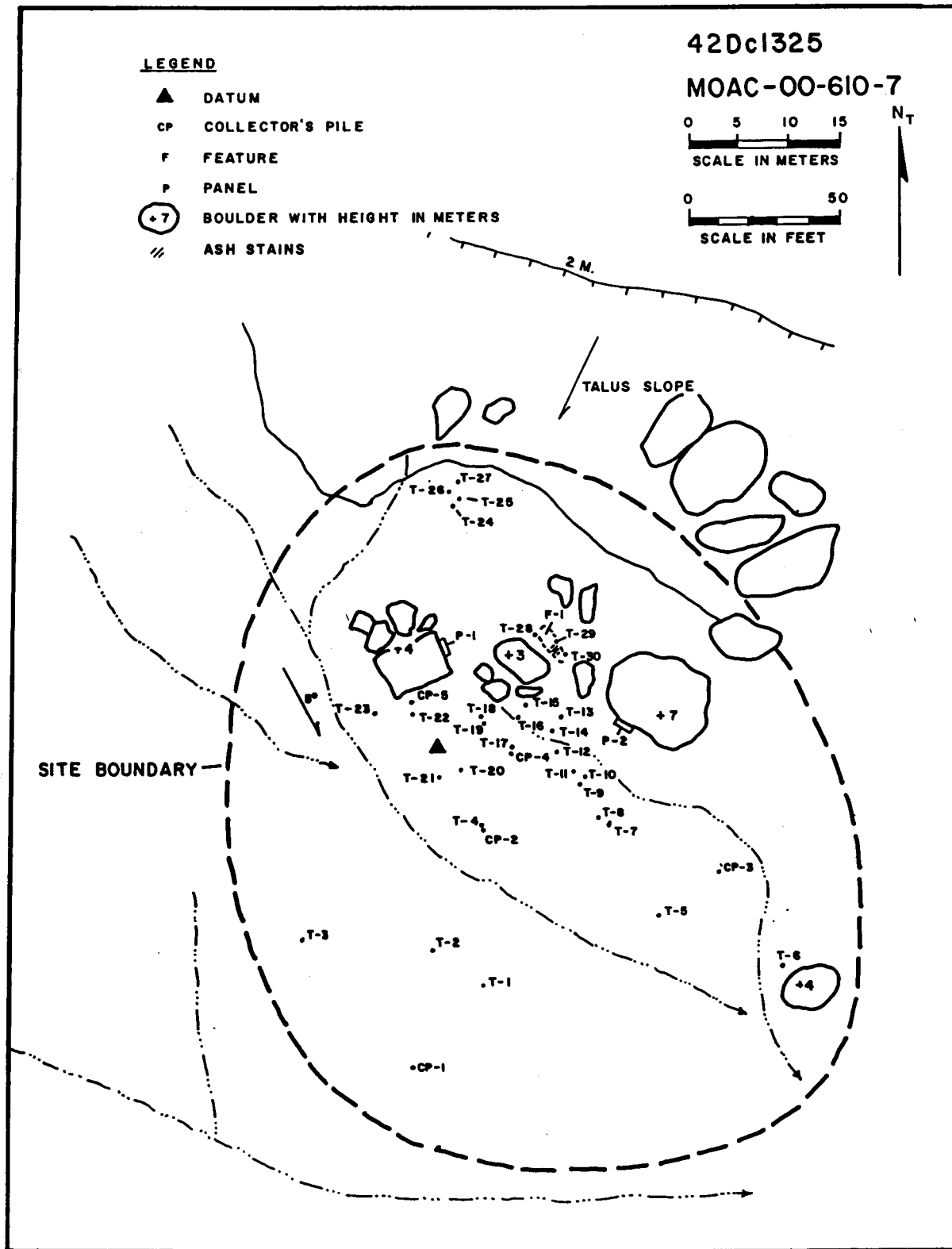


Figure 4. Site Map 42Dc1325.

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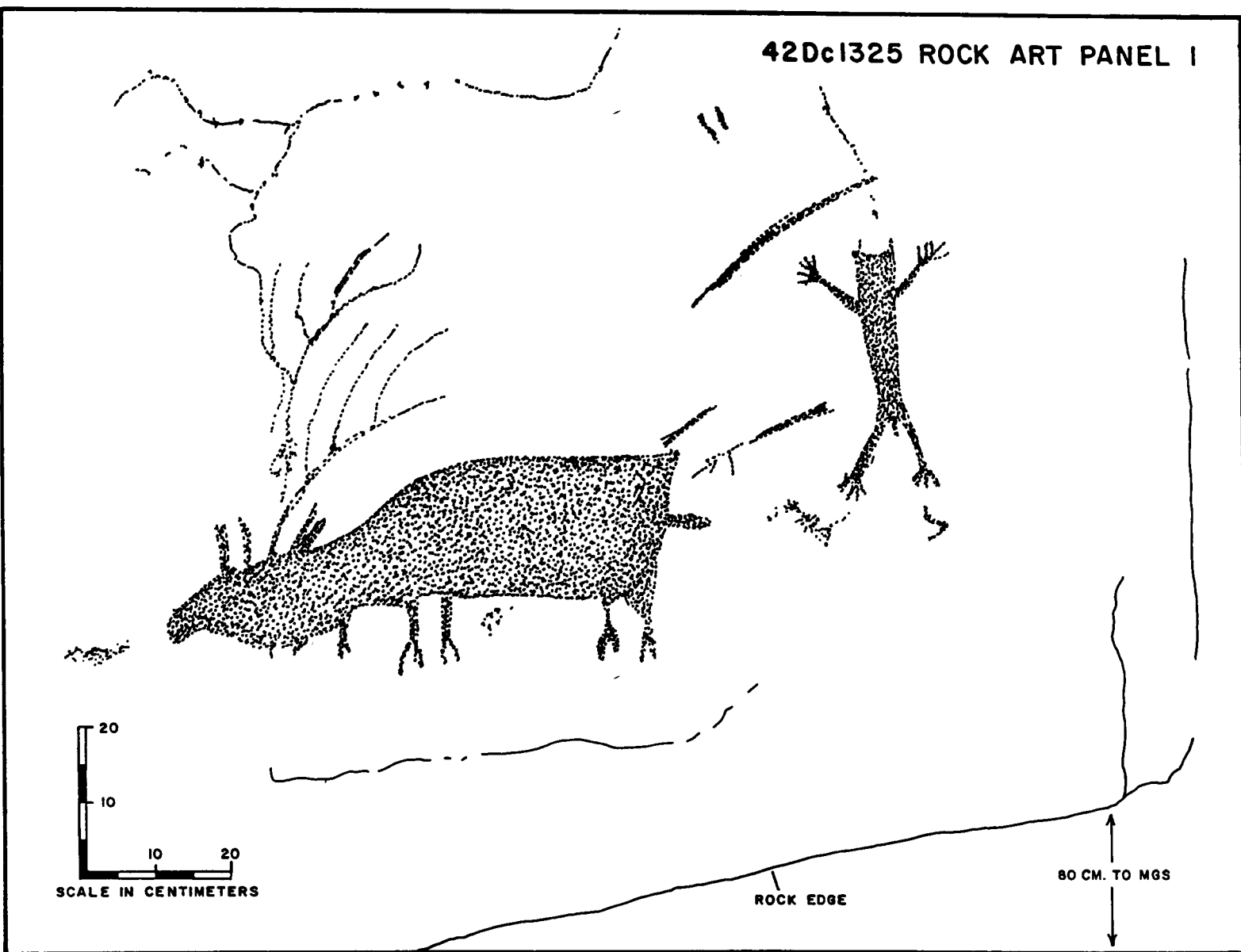


Figure 5. 42Dc1325. Rock Art Panel 1.

Smithsonian Site No.: 42Dc1347  
Temporary Site No.: 731-1  
Legal Description: T 8S, R 17E, Sec. 27  
Jurisdiction: BLM, Vernal Field Office

Description: The site is a lithic scatter of unknown cultural affiliation, located in a valley, within an area of sand dunes (Figures 6 and 7). Artifacts are dominated by secondary reduction stage flakes of various chert materials (n=118). The majority of flakes are located in a concentration towards the central portion of the site, as well as in two collector's piles, one of which contains 10 chert flakes, and the other 20 chert flakes. Several tools are observed, including two Stage II bifaces, a Stage III biface, two unprepared cores, and a single-handed cobble mano. An oxidized sandstone rock is located approximately one meter to the northwest of Tool 4. Due to the location in sand dunes, the site exhibits good potential for buried cultural remains and is recommended as eligible under criterion (D).

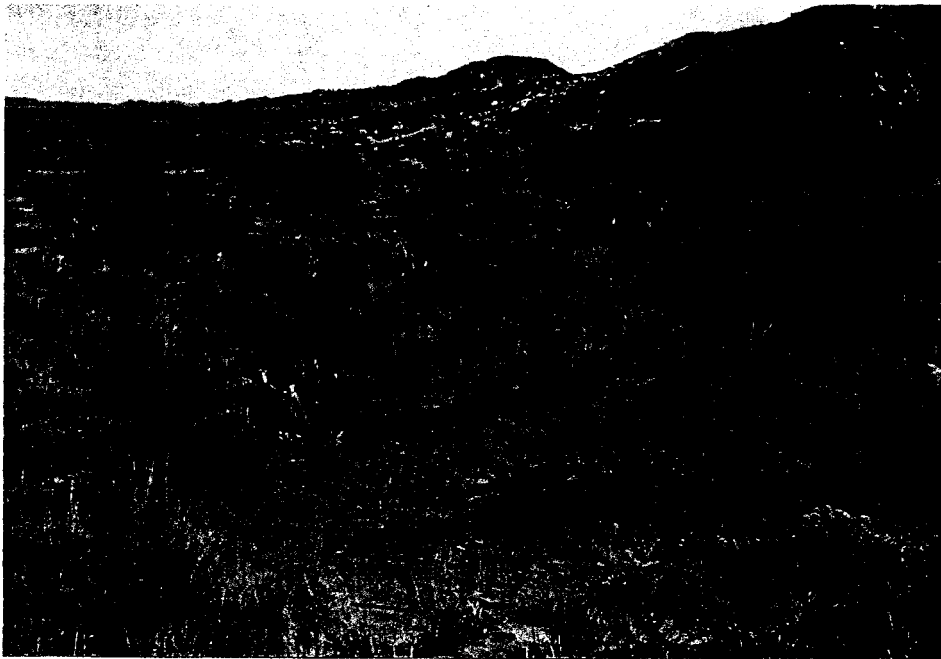


Figure 6. 42Dc1347. Site overview. Photo is viewed to the east. Roll 731/1:4.

Smithsonian Site No.: 42Dc1348  
Temporary Site No.: 731-2  
Legal Description: T 8S, R 17E, Sec. 27  
Jurisdiction: BLM, Vernal Field Office

Description: The site is a lithic scatter of unknown cultural affiliation, located in a valley, within an area of sand dunes (Figure 8). Artifacts at the site are dominated by secondary reduction stage flakes of various chert materials, with all other reduction stages represented (n=165). Tools include: five unprepared cores, three scrapers, two choppers, a Stage I and Stage II biface, a single-handed mano, two slab metates, and a ground stone fragment. Due to the location in sand dunes, the site exhibits good potential for buried cultural remains and is recommended as eligible under criterion (D).

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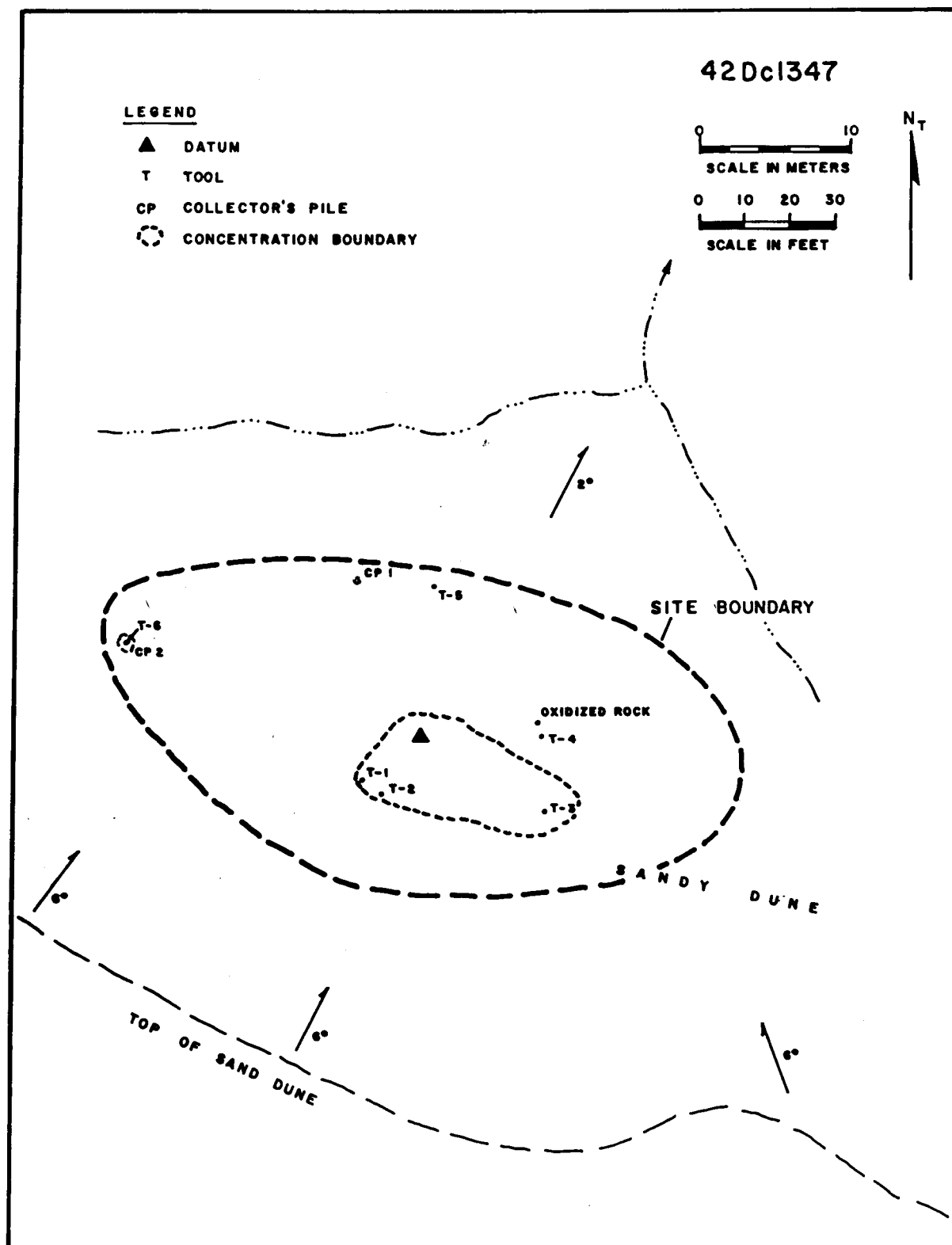


Figure 7. Site map 42Dc1347.

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Smithsonian Site No.: 42Dc1349

Temporary Site No.: 731-3

Legal Description: T 8S, R 17E, Sec. 27

Jurisdiction: BLM, Vernal Field Office

Description: The site is a lithic scatter of unknown cultural affiliation, located on a terrace in a valley, in an area of thin residual soils covered with a veneer of small rocks. Artifacts are dominated by secondary reduction stage flakes of various chert materials, with primary flakes also represented (n=48). Tools include: a scraper, a prepared core, an unprepared core, two Stage I biface fragments, and two utilized flakes. Due to its location on thin deposits of soil, and the lack of cultural features which would provide potential for depth of cultural remains, the site is recommended as not eligible to the NRHP.

Smithsonian Site No.: 42Dc1350

Temporary Site No.: 731-4

Legal Description: T 8S, R 17E, Sec. 27

Jurisdiction: BLM, Vernal Field Office

Description: The site is a lithic scatter of unknown cultural affiliation, located on a terrace in a valley, in an area of thin, residual soils covered with a veneer of small rocks. Artifacts are dominated by secondary reduction stage flakes of various chert materials, with primary flakes also represented (n=48). Tools include: a scraper, a prepared core, an unprepared core, two Stage I biface fragments, and two utilized flakes. Due to its location on thin deposits of soil, and the lack of cultural features which would provide potential for depth of cultural remains, the site is recommended as not eligible to the NRHP.

Smithsonian Site No.: 42Dc1351

Temporary Site No.: 731-5

Legal Description: T 8S, R 17E, Sec. 27

Jurisdiction: BLM, Vernal Field Office

Description: This is a multi-component site consisting of a lithic scatter of unknown cultural affiliation and a historic trash scatter, located on a sand dune above an intermittent stream (Figures 9 and 10). Lithic debitage is dominated by secondary reduction stage flakes of various chert materials, with all reduction stages represented (n=27). Tools include an unprepared core, a spent core and a Stage II biface fragment. Feature 1 (F-1) is a concentration of 30+ fire cracked tabular-shaped sandstone rocks (up to 15x10x2cm). It is located in a 1.6 m by 1.0 m area and is eroding from a dune. No ash staining or charcoal is observed. Two sandstone slabs (up to 30x25cm) are located approximately two meters to the northwest of the feature. The historic artifacts are limited to a scatter of tin cans, dominated by five hole in top evaporated milk can fragments, along with one sanitary commodity can. Also observed are a deteriorated wash basin or bucket (H-1) and a large, rusted bucket or drum (H-10). The site exhibits good potential for buried cultural remains and is evaluated as eligible under criterion (D).

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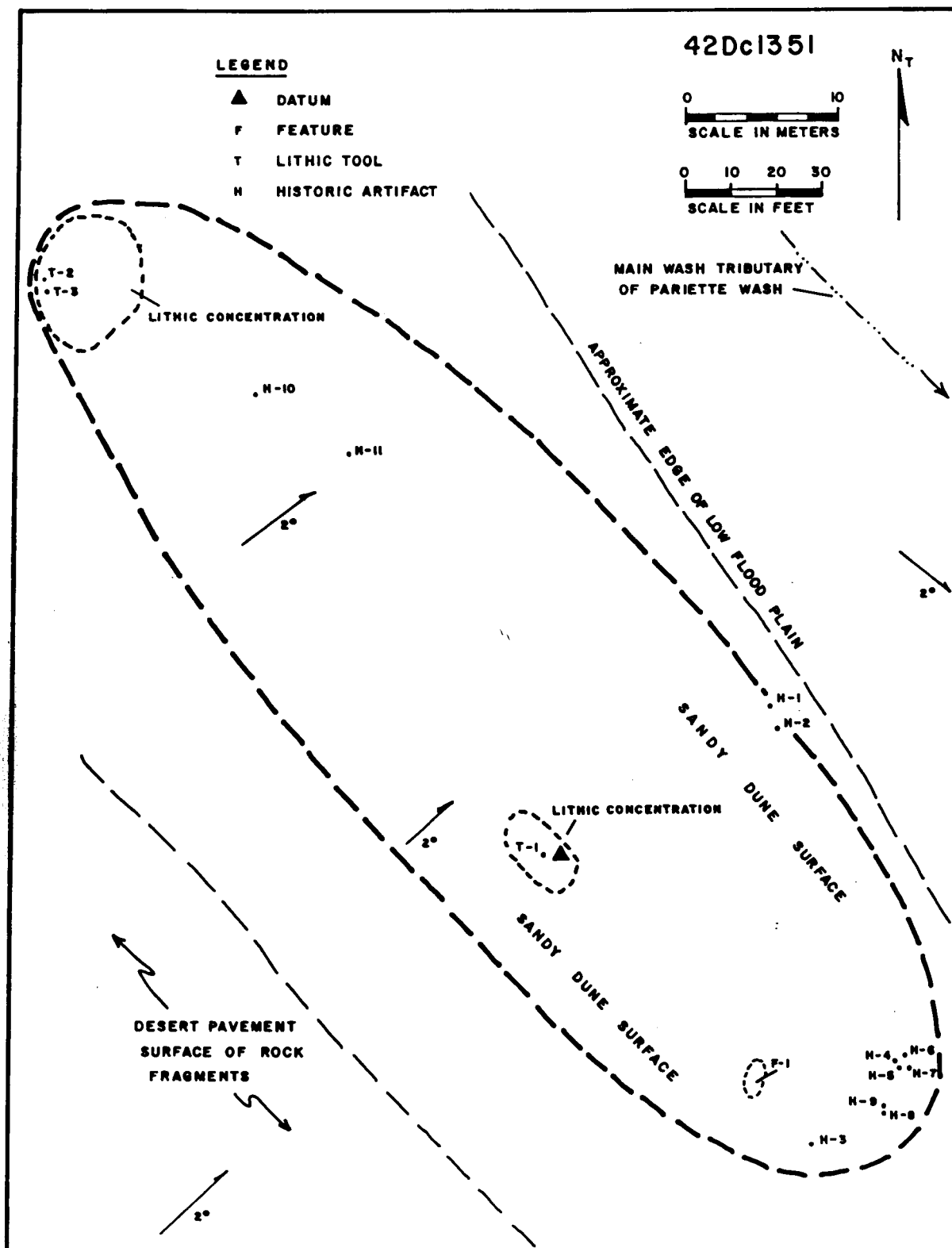


Figure 9. Site map 42Dc1351.

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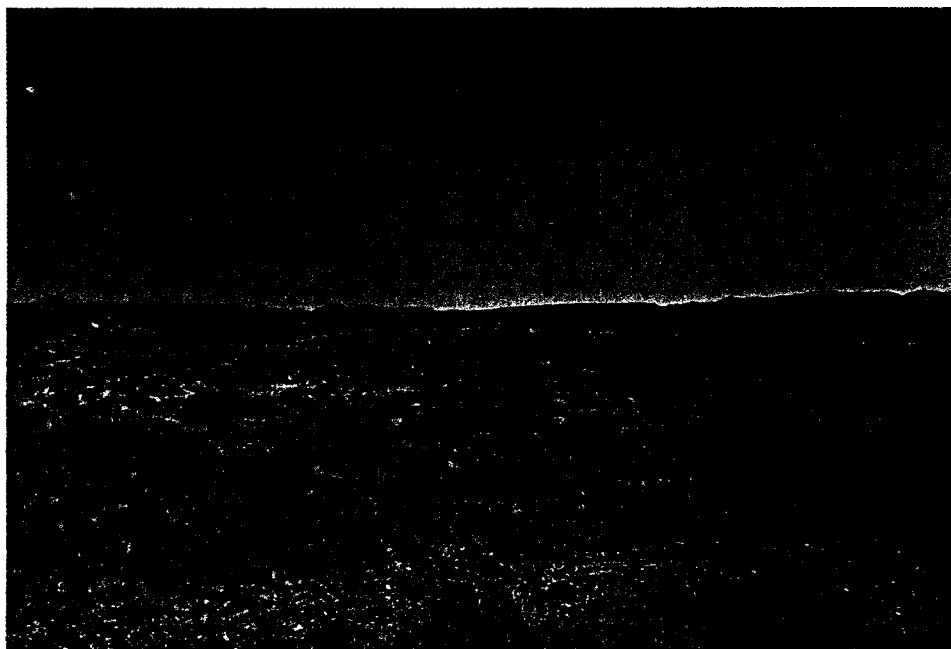


Figure 10. 42Dc1351. Site overview. Photo is viewed to the east. Roll 731/1:6.

Smithsonian Site No.: 42Dc1352

Temporary Site No.: 731-9

Legal Description: T 8S, R 17E, Sec. 27

Jurisdiction: BLM, Vernal Field Office

Description: This is a low density lithic and ceramic scatter situated on a southeast-trending slope of desert pavement near a tributary of Pariette Draw. It consists of 18 flakes of chert and quartzite material, 11 lithic tools, and a single Numic finger-indented brownware body sherd. The debitage includes 10 primary reduction stage flakes, and several secondary reduction stage flakes. Lithic tools consist of two scrapers, a single-handed mano fragment, and eight cores. The site is situated on desert pavement and shows little potential for buried cultural remains. It does not meet any of the eligibility criteria for inclusion to the NRHP, and the research potential has been exhausted by this documentation.

Smithsonian Site No.: 42Dc1353

Temporary Site No.: 731-6

Legal Description: T 8S, R 17E, Sec. 27

Jurisdiction: BLM, Vernal Field Office

Description: The site is a lithic scatter of unknown cultural affiliation, located on a bench above a tributary of Pariette Draw. Lithic debitage includes a nearly equal amount of secondary and primary reduction stage flakes of various chert materials (n=23). Tools include: six scrapers, four unprepared cores, four test cores, three choppers, three Stage I bifaces, one Stage III biface, one single-handed mano, and one hammerstone. Due to its location on thin deposits of soil, and the lack of cultural features which would provide potential for depth of cultural remains, the site is recommended as not eligible to the NRHP.

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Smithsonian Site No.: 42Dc1354  
Temporary Site No.: 731-7  
Legal Description: T 8S, R 17E, Sec. 27  
Jurisdiction: BLM, Vernal Field Office

Description: The site is a low density lithic scatter of unknown cultural affiliation, located on a bench above a tributary of Pariette Draw. Lithic debitage is dominated by secondary reduction flakes of tan opaque chert and tan and brown opaque chert, with primary flakes also represented. One rose-colored quartzite primary flake is also noted. A high percentage of cobble cores occur on the site including: four unprepared cores, three test cores, and three prepared cores. Also documented are three choppers and a Stage I biface. Due to its location on thin deposits of soil, and the lack of cultural features which would provide potential for depth of cultural remains, the site is recommended as not eligible to the NRHP.

Smithsonian Site No.: 42Dc1355  
Temporary Site No.: 731-8  
Legal Description: T 8S, R 17E, Sec. 27  
Jurisdiction: BLM, Vernal Field Office

Description: This is a temporary camp of unknown cultural affiliation situated on a southeast-facing bench near an unnamed stream (Figures 11 and 12). The site consists of a sparse, low density lithic scatter (10 flakes), five lithic tools, and two hearth features. The debitage is manufactured from chert and quartzite, and is dominated by primary reduction flakes. Lithic tools include two hammerstones and three cores. Feature 1 is a concentration of oxidized quartzite and sandstone cobble rocks (n=37), ranging in size from 7 to 17 cm diameter. The feature measures 1.0 by 4.5 m, and no ash or charcoal-stained soils are observed. Feature 2 is a scatter of oxidized quartzite rock fragments and cobbles (n=40), ranging in size from 5 to 15 cm diameter. The feature measures 3 m in diameter and no ash or charcoal-stained soils are observed. The thermal features lie on colluvial soils with potential for buried cultural materials. Thus, the site is evaluated as eligible for inclusion to the NRHP under criterion D, since it could yield additional information relevant to the prehistory of the area.



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Figure 11. 42Dc1355. Site overview. Photo is viewed to the northeast. Roll 731/2:9.

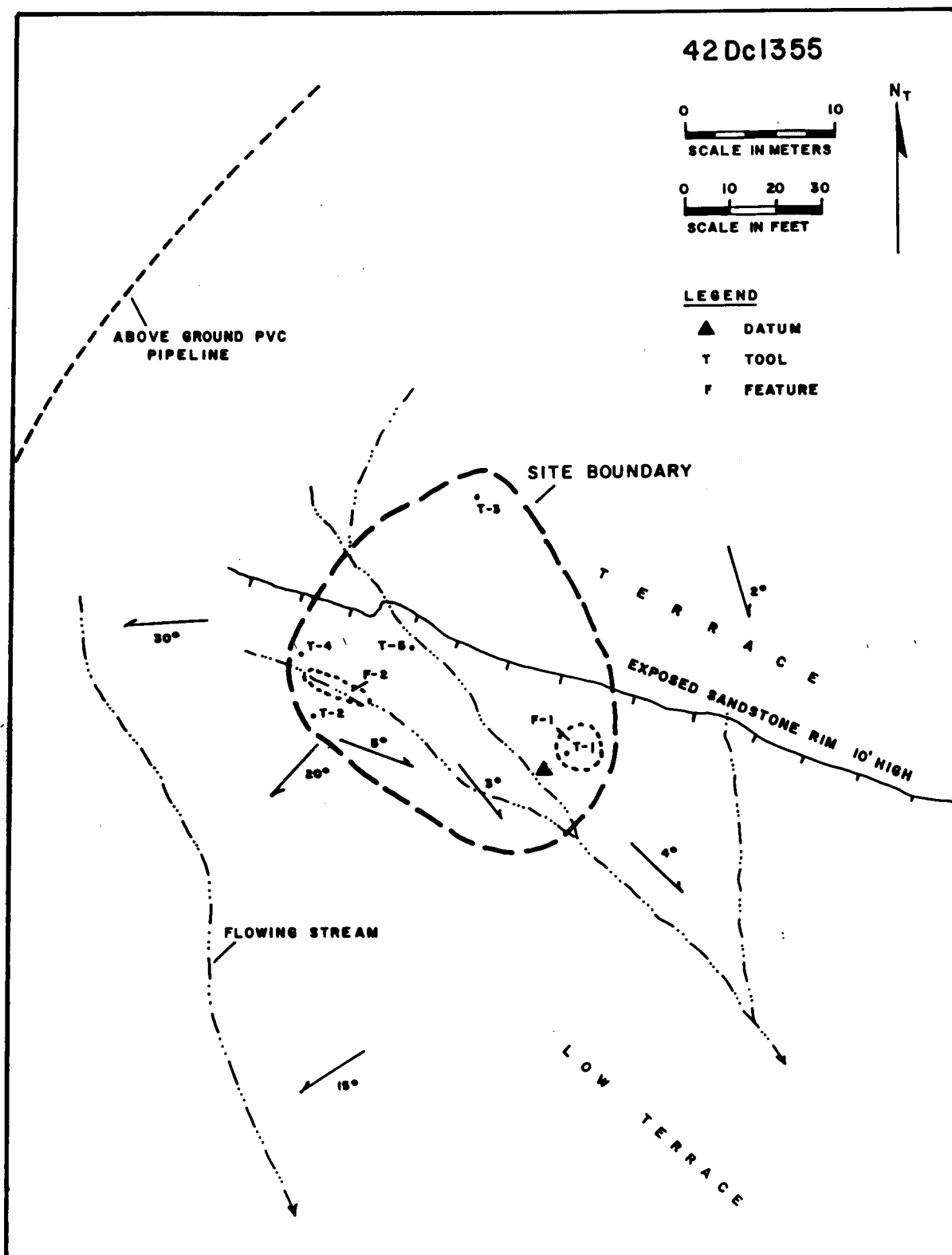


Figure 12. Site map 42Dc1355.

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### Isolated Finds of Artifacts

Isolated Find A (IF-A) is located in the NE/NE/NW of S. 27, T 8S, R 17E (UTM 585940E-4438550N). It is a brown and tan opaque chert tabular prepared core with 30+ flakes detached from narrow margins (8x7x2cm).

Isolated Find B (IF-B) is located in the NW/NW/SW of S. 27, T 8S, R 17E (UTM 585300E-4437740N). It consists of two tan opaque chert secondary flakes.

Isolated Find C (IF-C) is located in the SE/SW/SW of Sec. 27, T 8S, R 17E (UTM 585370E-4437280N). It is a brownish-yellow opaque chert cobble hammerstone with battering on two poles (8x7x6cm).

Isolated Find D (IF-D) is located in the SW/SE/SW of Sec. 27, T 8S, R 17E (UTM 585560E-4437230N). It is a light gray opaque chert secondary flake.

Isolated Find E (IF-E) is located in the SW/SE/SW of Sec. 27, T 8S, R 17E (UTM 585720E-4437360N). It is a light gray opaque chert secondary flake.

Isolated Find F (IF-F) is located in the SW/SE/SE of Sec. 27, T 8S, R 17E (UTM 586410E-4437210N). It consists of two light gray opaque chert secondary flakes and one primary flake of the same material.

Isolated Find G (IF-G) is located in the NW/SW/SE of Sec. 27, T 8S, R 17E (UTM 585980E-4437400N). It includes three light gray opaque chert secondary flakes.

Isolated Find H (IF-H) is located in the NE/NE/NE of Sec. 27, T 8S, R 17E (UTM 586710E-4438640N). It is a gray opaque chert unprepared core with dark brown cortex and 5 flakes removed from narrow margins (9x8x3cm).

Isolated Find I (IF-I) is located in the SE/SE/SE of Sec. 27, T 8S, R 17E (UTM 585680E-4437260N). It consists of two light gray opaque chert secondary flakes.

Isolated Find J (IF-J) is located in the SE/NW/SE of Sec. 27, T 8S, R 17E (UTM 586220E-4437540N). It is a large secondary blank (13x8x3cm).

Isolated Find K (IF-K) is located in the SW/NW/SE of Sec. 27, T 8S, R 17E (UTM 586140-4437640N). It is a large ovate Stage II biface preform 18x6x4cm).

Isolated Find L (IF-L) is located in the SW/NESW of Sec. 27, T 8S, R 17E (UTM 585720E-4437630N). It consists of a two light gray opaque chert secondary flakes and a brown opaque chert unprepared core with 3 flakes removed from narrow margins (6x4x21cm).

Isolated Find M (IF-M) is located in the SW/SE/NE of Sec. 27, T 8S, R 17E (UTM 586440E-4437920N). It is a light gray opaque chert unprepared core with dark brown cortex and four flakes detached from wide margins (8x6x3.5cm).

Isolated Find N (IF-N) is located in the SE/SE/NE of Sec. 27, T 8S, R 17E (UTM 586580E-4438000N). It is an ovate-shaped, light gray opaque chert unprepared core with dark brown cortex and 20+ flakes removed from narrow and wide margins (7.0x5.5x2.5cm).

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Isolated Find O (IF-O) is located in the NW/SE/NW of Sec. 27, T 8S, R 17E (UTM 585710E-4438300N). It includes two light gray opaque chert secondary flakes.

Isolated Find P (IF-P) is located in the SW/NW/NE of Sec. 27, T 8S, R 17E (UTM 586140E-4438360N). It is a light gray opaque chert decortication flake.

Isolated Find Q (IF-Q) is located in the NW/NE/NE of Sec. 27, T 8S, R 17E (UTM 586430E-4438660N). It is a light gray opaque chert unprepared core with dark brown cortex and 4 flakes removed from narrow margins (7x5x2cm).

## NATIONAL REGISTER OF HISTORIC PLACES EVALUATION

The National Register Criteria for Evaluation of Significance and procedures for nominating cultural resources to the National Register of Historic Places (NRHP) are outlined in 36 CFR 60.4 as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, material, workmanship, feeling, and association, and that they:

a)...are associated with events that have made a significant contribution to the broad patterns of our history; or

b)...are associated with the lives of persons significant to our past; or

c)...embody the distinctive characteristics of a type, period, or method of construction; or that represents the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d)...have yielded or may be likely to yield information important in prehistory or history.

The inventory of the Inland Production's 760 acre parcel in Pleasant Valley resulted in the documentation of four historic temporary camps (42Dc1321, 42Dc1322, 42Dc1323, and 42Dc1324), two prehistoric temporary camps (42Dc1325 and 42Dc1355), six prehistoric lithic scatters (42Dc1347, 42Dc1348, 42Dc1349, 42Dc1350, 42Dc1353, and 42Dc1354), one prehistoric lithic and ceramic scatter (42Dc1352), and one multi-component site consisting of a prehistoric lithic scatter and historic trash scatter (42Dc1351). Five of these sites are recommended as eligible to the NRHP under criterion (D): 42Dc1325, 42Dc1347, 42Dc1348, 42Dc1351, and 42Dc1355. Site 42Dc1325 is a prehistoric temporary camp with a fire cracked rock feature. Sites 42Dc1347 and 42Dc1348 are lithic scatters located in aeolian dunes. Site 42Dc1351 is a lithic scatter and historic trash scatter, also located on aeolian deposition. Site 42Dc1355 is a prehistoric temporary camp with two hearth features. All of these sites are recommended as eligible due to the potential for buried cultural remains. Additional investigations at these sites could provide significant data concerning site function, chronology, subsistence, and material culture.

Four historic sites, 42Dc1321, 42Dc1322, 42Dc1323 and 42Dc1324 represent temporary livestock camps having a limited range of cultural materials. Additional investigations at these sites would fail to provide information relevant to historic research domains of the area. Five

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prehistoric sites (42Dc1349, 42Dc1350, 42Dc1352, 42Dc1353, and 42Dc1354) are recommended as not eligible for NRHP inclusion since they have an absence of additional diagnostic artifacts or features. Further research of these sites would not provide pertinent information to the prehistory of the area. The isolated finds of artifacts are also considered not eligible to the NRHP since they lack additional research potential.

#### MANAGEMENT RECOMMENDATIONS

The inventory resulted in the documentation of five sites that are recommended as eligible to the NRHP. These include: two prehistoric temporary camps (42Dc1325 and 42Dc1355); two lithic scatters (42Dc1347 and 42Dc1348); and one multi-component site consisting of a lithic scatter and historic trash scatter (42Dc1351). All of these sites need to be avoided by the future development within the parcel. Based on these findings, a determination of "no historic properties affected" is recommended for this project pursuant to Section 106, CFR 800.

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APPENDIX A  
INTERMOUNTAIN ANTIQUITIES COMPUTER SYSTEM (IMACS)  
SITE INVENTORY FORMS

On File At:

U.S. Bureau of Land Management  
Vernal Field Office  
Vernal, Utah

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**WORKSHEET**  
**APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 03/09/2001

API NO. ASSIGNED: 43-013-32232

WELL NAME: GBU 7-27-8-17

OPERATOR: INLAND PRODUCTION ( N5160 )

CONTACT: JON HOLST

PHONE NUMBER: 970-481-1202

**PROPOSED LOCATION:**

SWNE 27 080S 170E

SURFACE: 2085 FNL 2203 FEL

BOTTOM: 2085 FNL 2203 FEL

DUCHESNE

MONUMENT BUTTE ( 105 )

LEASE TYPE: 1-Federal

LEASE NUMBER: UTU-76241

SURFACE OWNER: 1-Federal

PROPOSED FORMATION: GRRV

INSPECT LOCATN BY: / /

Tech Review	Initials	Date
Engineering		
Geology		
Surface		

**RECEIVED AND/OR REVIEWED:**

☒ Plat

☒ Bond: Fed[1] Ind[] Sta[] Fee[]  
(No. 4488944 )

N Potash (Y/N)

N Oil Shale (Y/N) \*190-5 (B) or 190-3

☒ Water Permit  
(No. MUNICIPAL )

N RDCC Review (Y/N)  
(Date: \_\_\_\_\_ )

N/A Fee Surf Agreement (Y/N)

**LOCATION AND SITING:**

         R649-2-3. Unit GREATER BOUNDARY

         R649-3-2. General

         Siting: 460 From Qtr/Qtr & 920' Between Wells

         R649-3-3. Exception

☒ Drilling Unit

Board Cause No: 225-2 \* Unit & Enh. Rec.

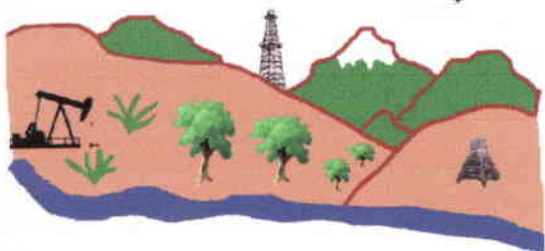
Eff Date: 4-8-98

Siting: \* Suspends Gen. Siting

         R649-3-11. Directional Drill

COMMENTS: Mon. Butte Field Sol, separate file.

STIPULATIONS: ① FEDERAL APPROVAL



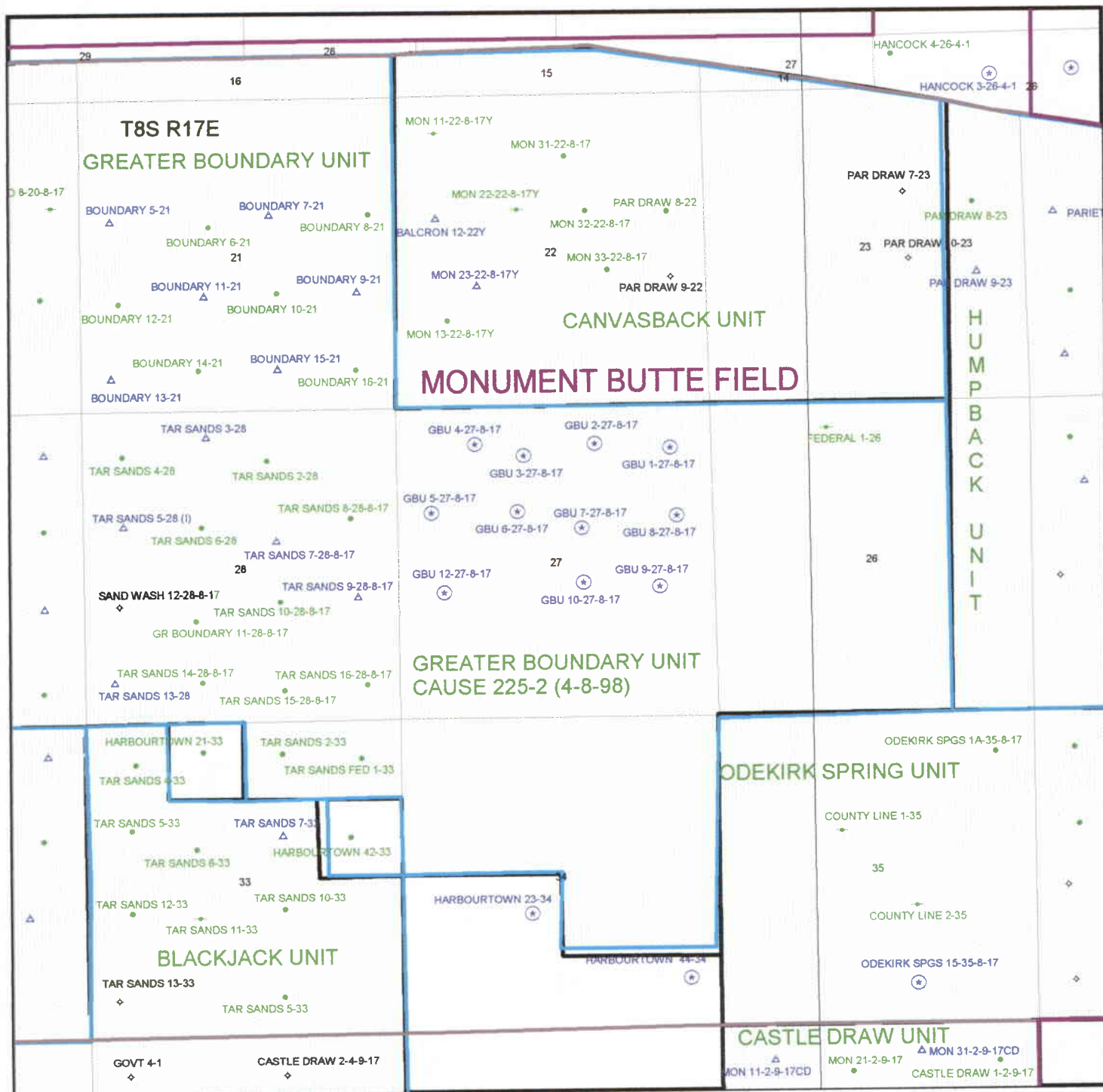
Utah Oil Gas and Mining

OPERATOR: INLAND PROD CO (N5160)

FIELD: MONUMENT BUTTE (105)

SEC. 27, T8S, R17E,

COUNTY: DUCHESNE UNIT: GREATER BOUNDARY  
CAUSE: 225-2



PREPARED BY: LCORDOVA  
DATE: 14-MARCH-2001



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor  
Kathleen Clarke  
Executive Director  
Lowell P. Braxton  
Division Director

1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, Utah 84114-5801  
801-538-5340  
801-359-3940 (Fax)  
801-538-7223 (TDD)

March 15, 2001

Inland Production Company  
410 - 17th St, Suite 700  
Denver, CO 80202

Re: Greater Boundary Unit 7-27-8-17 Well, 2085' FNL, 2203' FEL, SW NE, Sec. 27,  
T. 8 South, R. 17 East, Duchesne County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. § 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-013-32232.

Sincerely,

A handwritten signature in black ink, appearing to read 'John R. Baza'.

John R. Baza  
Associate Director

er

Enclosures

cc: Duchesne County Assessor  
Bureau of Land Management, Vernal District Office

**Operator:** Inland Production Company  
**Well Name & Number** Greater Boundary Unit 7-27-8-17  
**API Number:** 43-013-32232  
**Lease:** UTU 76241

**Location:** SW NE      **Sec.** 27      **T.** 8 South      **R.** 17 East

### **Conditions of Approval**

**1. General**

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**2. Notification Requirements**

Notify the Division within 24 hours of spudding the well.

- Contact Carol Daniels at (801) 538-5284.

Notify the Division prior to commencing operations to plug and abandon the well.

- Contact Dan Jarvis at (801) 538-5338

**3. Reporting Requirements**

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

**4. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. UTU-76241	
1b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A	
2. NAME OF OPERATOR Inland Production Company		7. UNIT AGREEMENT NAME Greater Boundary	
3. ADDRESS OF OPERATOR 410 - 17th Street, Suite 700, Denver, CO 80202 Phone: (303) 893-0102		8. FARM OR LEASE NAME WELL NO #7-27-8-17	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*) At Surface SW/NE 2085' FNL & 2203' FWL At proposed Prod. Zone		9. API WELL NO.	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 14.2 miles southeast of Myton, Utah		10. FIELD AND POOL OR WILDCAT Monument Butte	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE. FT. (Also to Approx. 2085' f/lse line		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SW/NE Sec. 27, T8S, R17E	
16. NO. OF ACRES IN LEASE 1760		12. County Duchesne	
17. NO. OF ACRES ASSIGNED TO THIS WELL 40		13. STATE UT	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT. Approx. 1320'		20. ROTARY OR CABLE TOOLS Rotary	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 5145.9' GR		22. APPROX. DATE WORK WILL START* 2nd QTR 01	
23. PROPOSED CASING AND CEMENTING PROGRAM			
SIZE OF HOLE	SIZE OF CASING	WEIGHT/FOOT	SETTING DEPTH
Refer to Monument Butte Field SOP's Drilling Program/Casing Design			

Inland Production Company proposes to drill this well in accordance with the attached exhibits.

Draft Conditions of Approval are attached.

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DIVISION OF  
OIL, GAS AND MININGIN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone.  
If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.24. SIGNED [Signature] TITLE Permitting Agent DATE 2/27/01  
(This space for Federal or State office use)

## NOTICE OF APPROVAL

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY [Signature] TITLE Assistant Field Manager Mineral Resources DATE 04/05/2001

\*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

CONDITIONS OF APPROVAL ATTACHED

CONDITIONS OF APPROVAL  
APPLICATION FOR PERMIT TO DRILL

Company/Operator: Inland Production Company

Well Name & Number: Greater Boundary 7-27-8-17

API Number: 43-013-32232

Lease Number: U -76241

Location: SWNE Sec. 27 T. 08S R. 17E

Agreement: Greater Boundary Unit

For more specific details on notification requirements, please check the Conditions of Approval for Notice to Drill and Surface Use Program.



**CONDITIONS OF APPROVAL FOR NOTICE TO DRILL**

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Be aware fire restrictions may be in effect when location is being constructed and/or when well is being drilled. Contact the appropriate Surface Management Agency for information.

A. DRILLING PROGRAM

1. Casing Program and Auxiliary Equipment

As a minimum, the usable water resources and other resources shall be isolated and/or protected by having a cement top for the production casing at least 200 ft. above the top of the Green River Formation, identified at  $\pm 1,795$  ft.

Well No.: GREATER BOUNDARY 7-27-8-17

SURFACE USE PROGRAM  
Conditions of Approval (COA)  
Inland Production Company - Well No. 7-27-8-17

Plans For Reclamation of Location:

All seeding for reclamation operations at this location shall use the following seed mixture:

shadscale	Atriplex conflertifolia	4 lbs/acre
gardners saltbush	Atriplex gardneri	4 lbs/acre
galleta grass	Hilaria jamesii	4 lbs/acre

If the seed mixture is to be aurally broadcasted, the pounds per acre shall be doubled. All seed poundages are in Pure Live Seed.

Immediately after construction the stockpiled top soil will be seeded and the seed worked into the soil by "walking" the pile with caterpillar tracks.

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: INLAND PRODUCTION COMPANY

Well Name: GBU 7-27-8-17

Api No. 43-013-32232 LEASE TYPE: FEDERAL

Section 27 Township 08S Range 17E County DUCHESNE

Drilling Contractor LEON ROSS DRILLING RIG # 14

SPUDDED:

Date 04/25/2001

Time 9:00 AM

How DRY

Drilling will commence \_\_\_\_\_

Reported by GARY DIETZ

Telephone # 1-435-823-4211

Date 04/27/2001 Signed: CHD

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry a different reservoir.  
Use "APPLICATION FOR PERMIT -" for such proposals

**SUBMIT IN TRIPLICATE**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

**INLAND PRODUCTION COMPANY**

3. Address and Telephone No.

**Rt. 3 Box 3630, Myton Utah, 84052 435-646-3721**

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)

**2085' FNL & 2203' FW SW/NE Sec.27, T8S, R17E**

5. Lease Designation and Serial No.

**# UTU-76241**

6. If Indian, Allottee or Tribe Name

**NA**

7. If Unit or CA, Agreement Designation

**# Greater Boundry**

8. Well Name and No.

**# 7-27-8-17**

9. API Well No.

**# 43-013-32232**

10. Field and Pool, or Exploratory Area

**# Monument Butte**

11. County or Parish, State

**# Duchesne, Utah.**

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

**TYPE OF SUBMISSION**

☒ Notice of Intent  
☐ Subsequent Report  
☐ Final Abandonment Notice

**TYPE OF ACTION**

☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☒ Other **Spud**

☐ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☐ Conversion to Injection  
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

On 4/25/01 MIRU Ross #14. Drill 305' of 12 1/4" hole with air mist. TIH w/ 8 Jt's 85/8" J-55 24# csgn. Set @ 307.66/KB

14. I hereby certify that the foregoing is true and correct

Signed

Pat Wisener  
Pat Wisener

Title

Drilling Foreman

Date

04/29/2001

(This space for Federal or State office use)

Approved by

Title

Date

Conditions of approval, if any:



May 1, 2001

State of Utah  
Division of Oil, Gas & Mining  
Attn: Dan Jarvis  
1594 West North Temple - Suite 1210  
P.O. Box 145801  
Salt Lake City, Utah 84114-5801

Dear Dan:

Please find enclosed Form 7, with water analysis report for the Greater Boundry 7-27-8-17. If you have any questions feel free to call me @ 435-823-7468 cell, or 435-646-3721 office any time.

Sincerely,

PAT WISENER  
Drilling Foreman

Enclosures

pw

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING**REPORT OF WATER ENCOUNTERED DURING DRILLING**Well name and number: **Greater Boundry 7-27-8-17**API number: **43-013-32232**Well Location: QQ SW/NW Section 27 Township 8S Range 17E County DuchesneWell Operator: **INLAND PRODUCTION COMPANY**Address: **Route 3 Box 3630****Myton, Utah 84052**Phone: **435-646-3721**Drilling Contractor: **Ross Well Service**Address: **P.O Box.****Roosevelt, Utah 84066**Phone: **435-722-4469**

Water encountered (attach additional pages as needed):

DEPTH		VOLUME (FLOW RATE OR HEAD)	QUALITY (FRESH OR SALTY)
FROM	TO		
50'	55'	No flow to surface	

Formation Tops: **Surface ( Uinta )**

If an analysis has been made of the water encountered, please attach a copy of the report to this form.

YES

I hereby certify that this report is true and complete to the best of my knowledge.

Date: **05/01/01**Name & Signature: Time: **10:00 AM**

# UNICHEM

A Division of BJ Services

P.O. Box 217  
Roosevelt, Utah 84066

Office (435) 722-5066  
Fax (435) 722-5727

## WATER ANALYSIS REPORT

Company INLAND PRODUCTION Address \_\_\_\_\_ Date 4/27/01

Source GBU 7-27-8-17 Date Sampled 4/26/01 Analysis No. \_\_\_\_\_

55'

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>8.4</u>		
2. H <sub>2</sub> S (Qualitative)	<u>0.0</u>		
3. Specific Gravity	<u>1.002</u>		
4. Dissolved Solids		<u>2,587</u>	
5. Alkalinity (CaCO <sub>3</sub> )	CO <sub>3</sub>	<u>0</u>	÷ 30 <u>0</u> CO <sub>3</sub>
6. Bicarbonate (HCO <sub>3</sub> )	HCO <sub>3</sub>	<u>976</u>	÷ 61 <u>16</u> HCO <sub>3</sub>
7. Hydroxyl (OH)	OH	<u>0</u>	÷ 17 <u>0</u> OH
8. Chlorides (Cl)	Cl	<u>283</u>	÷ 35.5 <u>8</u> Cl
9. Sulfates (SO <sub>4</sub> )	SO <sub>4</sub>	<u>525</u>	÷ 48 <u>11</u> SO <sub>4</sub>
10. Calcium (Ca)	Ca	<u>40</u>	÷ 20 <u>2</u> Ca
11. Magnesium (Mg)	Mg	<u>4</u>	÷ 12.2 <u>0</u> Mg
12. Total Hardness (CaCO <sub>3</sub> )		<u>120</u>	
13. Total Iron (Fe)		<u>1.4</u>	
14. Manganese			
15. Phosphate Residuals			

\*Milli equivalents per liter

### PROBABLE MINERAL COMPOSITION

Compound	Equiv. Wt.	X	Meg/l	=	Mg/l
Ca(HCO <sub>3</sub> ) <sub>2</sub>	81.04	<u>2</u>			<u>162</u>
CaSO <sub>4</sub>	68.07				
CaCl <sub>2</sub>	55.50				
Mg(HCO <sub>3</sub> ) <sub>2</sub>	73.17				
MgSO <sub>4</sub>	60.19				
MgCl <sub>2</sub>	47.62				
NaHCO <sub>3</sub>	84.00	<u>14</u>			<u>1,176</u>
Na <sub>2</sub> SO <sub>4</sub>	71.03	<u>11</u>			<u>781</u>
NaCl	58.46	<u>8</u>			<u>468</u>

#### Saturation Values

CaCO<sub>3</sub>

#### Distilled Water 20°C

13 Mg/l

CaSO<sub>4</sub> · 2H<sub>2</sub>O

2,090 Mg/l

MgCO<sub>3</sub>

103 Mg/l

REMARKS Sr = 0

50-55' Depth.

P. 02/02  
FAX NO. 435-646 3031  
INLAND PRODUCTION CO  
MAY-08-01 TUE 09:30 AM

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING  
ENTITY ACTION FORM - FORM 6

OPERATOR: INLAND PRODUCTION COMPANY  
ADDRESS: RT. 3 BOX 3630  
MAYTON, UT 84052

OPERATOR ACCT NO N51E0

ACTION CODE	CURRENT ENTITY NO	NEW ENTITY NO	AP NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RS	COUNTY		
A	99999	12391	43-013-32224	Boundary #3-27-8-17	NE/NW	27	8S	17E	Duchesne	April 16, 2001	04/16/01

WELL 1 COMMENTS

5-8-01

ACTION CODE	CURRENT ENTITY NO	NEW ENTITY NO	AP NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RS	COUNTY		
A	99999	12391	43-013-32225	Boundary #5-27-8-17	SW/NW	27	8S	17E	Duchesne	April 19, 2001	04/19/01

WELL 2 COMMENTS

5-8-01

ACTION CODE	CURRENT ENTITY NO	NEW ENTITY NO	AP NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RS	COUNTY		
A	99999	12391	43-013-32231	Boundary #6-27-8-17	SE/NW	27	8S	17E	Duchesne	April 20, 2001	04/20/2001

WELL 3 COMMENTS

5-8-01

ACTION CODE	CURRENT ENTITY NO	NEW ENTITY NO	AP NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RS	COUNTY		
A	99999	12391	43-013-32232	Boundary #7-27-8-17	SW/NE	27	8S	17E	Duchesne	April 25, 2001	04/25/01

WELL 4 COMMENTS

5-8-01

ACTION CODE	CURRENT ENTITY NO	NEW ENTITY NO	AP NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RS	COUNTY		

WELL 5 COMMENTS

ACTION CODES (See instructions on back of form)

- A - Establish new entity for a well being developed
- B - Add new name to existing well group or well
- C - Reassign well to another entity
- D - Reassign well from one entity to another entity
- E - Other (explain in comments section)

NOTE: Use COMMENT section to identify each Action Code was selected

*Kathie S. Jones*  
Signature  
Production Clerk  
T&E

Kathie S. Jones

May 8, 2001  
Date



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry a different reservoir.  
Use "APPLICATION FOR PERMIT -" for such proposals

**SUBMIT IN TRIPLICATE**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

**INLAND PRODUCTION COMPANY**

3. Address and Telephone No.

**Rt. 3 Box 3630, Myton Utah, 84052 435-646-3721**

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)

**2085' FNL & 2203' FW SW/NE Sec.27, T8S, R17E**

5. Lease Designation and Serial No.

**# UTU-76241**

6. If Indian, Allottee or Tribe Name

**NA**

7. If Unit or CA, Agreement Designation

**# Greater Boundry**

8. Well Name and No.

**# 7-27-8-17**

9. API Well No.

**# 43-013-32232**

10. Field and Pool, or Exploratory Area

**# Monument Butte**

11. County or Parish, State

**# Duchesne, Utah.**

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

☒ Notice of Intent  
☐ Subsequent Report  
☐ Final Abandonment Notice

TYPE OF ACTION

☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☒ Other **Spud**

☐ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☐ Conversion to Injection  
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

On 4/25/01 MIRU Ross #14. Drill 305' of 12 1/4" hole with air mist. TIH w/ 8 Jt's 85/8" J-55 24# csgn. Set @ 307.66/KB On 5/4/01 cement with 145 sks of Class "G" w/ 2% CaCL2 + 1/4# sk Cello-Flake Mixed @ 15.8 ppg > 1.17 cf/sk yeild. 4 bbls cement returned to surface. WOC

RECEIVED  
MAY 10 2001  
DIVISION OF  
OIL GAS AND MINING

14. I hereby certify that the foregoing is true and correct

Signed

*Pat Wisener*  
Pat Wisener

Title

**Drilling Foreman**

Date

**05/04/2001**

(This space for Federal or State office use)

Approved by

Title

Date

Conditions of approval, if any:

# INLAND PRODUCTION COMPANY - CASING & CEMENT REPORT

8 5/8 CASING SET AT 307.66

LAST CASING 8 5/8" SET AT 307.66'  
 DATUM 10' KB  
 DATUM TO CUT OFF CASING \_\_\_\_\_  
 DATUM TO BRADENHEAD FLANGE \_\_\_\_\_  
 TD DRILLER 305' LOGGER \_\_\_\_\_  
 HOLE SIZE 12 1/4

OPERATOR Inland Production Company  
 WELL Greater Boundry 7-27-8-16  
 FIELD/PROSPECT Monument Butte  
 CONTRACTOR & RIG # Ross #14

## LOG OF CASING STRING:

PIECES	OD	ITEM - MAKE - DESCRIPTION	WT / FT	GRD	THREAD	CONDT	LENGTH
		shjt 42.75					
		WHI - 92 csg head			8rd	A	0.95
7	8 5/8"	Maverick ST&C csg	24#	J-55	8rd	A	296.81
		<b>GUIDE</b> shoe			8rd	A	0.9

CASING INVENTORY BAL.	FEET	JTS	TOTAL LENGTH OF STRING	298.66
TOTAL LENGTH OF STRING	298.66	7	LESS CUT OFF PIECE	1
LESS NON CSG. ITEMS	1.85		PLUS DATUM TO T/CUT OFF CSG	10
PLUS FULL JTS. LEFT OUT	0		CASING SET DEPTH	<b>307.66</b>

TOTAL	296.81	7	} COMPARE	
TOTAL CSG. DEL. (W/O THRDS)	296.81	7		
TIMING	1ST STAGE			
BEGIN RUN CSG.	SPUD	04/25/2001	GOOD CIRC THRU JOB	yes
CSG. IN HOLE	9:00am		Bbls CMT CIRC TO SURFACE	4
BEGIN CIRC			RECIPROCATED PIPE FOR	THRU FT STROKE
BEGIN PUMP CMT			DID BACK PRES. VALVE HOLD ?	N/A
BEGIN DSPL. CMT			BUMPED PLUG TO	155 PSI
PLUG DOWN	Cemented	05/04/2001		

CEMENT USED	CEMENT COMPANY- <b>BJ</b>		
STAGE	# SX	CEMENT TYPE & ADDITIVES	
1	145	Class "G" w/ 2% CaCL2 + 1/4#/sk Cello-Flake mixed @ 15.8 ppg 1.17 cf/sk yield	

CENTRALIZER & SCRATCHER PLACEMENT	SHOW MAKE & SPACING
Centralizers - Middle first, top second & third for 3	

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING**REPORT OF WATER ENCOUNTERED DURING DRILLING**Well name and number: Greater Boundry 7-27-8-17API number: 43-013-32232Well Location: QQ SW/NW Section 27 Township 8S Range 17E County DuchesneWell Operator: INLAND PRODUCTION COMPANYAddress: Route 3 Box 3630Myton, Utah 84052Phone: 435-646-3721Drilling Contractor: Union DrillingAddress: Drawer 40Buckhannon, WV 26201Phone: 304-472-4610

Water encountered (attach additional pages as needed):

DEPTH		VOLUME (FLOW RATE OR HEAD)	QUALITY (FRESH OR SALTY)
FROM	TO		
1604'	1625'	No flow to surface	

**Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY**Formation Tops: Surface ( Uinta )

If an analysis has been made of the water encountered, please attach a copy of the report to this form.

YES

I hereby certify that this report is true and complete to the best of my knowledge.

Date: 06/11/01Name & Signature: Pat WiserTime: 10:00 AM

**UNICHEM**

A Division of BJ Services

P.O. Box 217  
Roosevelt, Utah 84066Office (435) 722-5086  
Fax (435) 722-5727**WATER ANALYSIS REPORT**

Company INLAND PRODUCTION Address \_\_\_\_\_ Date 5/24/01  
 Source GBU 7-27-8-17 Date Sampled 5/24/01 Analysis No. \_\_\_\_\_  
1604 Ft.

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>9.3</u>		
2. H <sub>2</sub> S (Qualitative)	<u>1.0</u>		
3. Specific Gravity	<u>1.072</u>		
4. Dissolved Solids		<u>80,900</u>	
5. Alkalinity (CaCO <sub>3</sub> )	CO <sub>3</sub>	<u>9,000</u>	+ 30 <u>300</u> CO <sub>3</sub>
6. Bicarbonate (HCO <sub>3</sub> )	HCO <sub>3</sub>	<u>4,880</u>	+ 61 <u>80</u> HCO <sub>3</sub>
7. Hydroxyl (OH)	OH		+ 17 _____ OH
8. Chlorides (Cl)	Cl	<u>35,400</u>	+ 35.5 <u>997</u> Cl
9. Sulfates (SO <sub>4</sub> )	SO <sub>4</sub>	<u>0</u>	+ 48 <u>0</u> SO <sub>4</sub>
10. Calcium (Ca)	Ca	<u>10</u>	+ 20 <u>1</u> Ca
11. Magnesium (Mg)	MG	<u>54</u>	+ 12.2 <u>4</u> Mg
12. Total Hardness (CaCO <sub>3</sub> )		<u>250</u>	
13. Total Iron (Fe)		<u>3.6</u>	
14. Manganese		<u>0.8</u>	
15. Phosphate Residuals			

\*Milli equivalents per liter

**PROBABLE MINERAL COMPOSITION**

1	Ca	←	HCO <sub>3</sub>	<u>380</u>
4	Mg	→	SO <sub>4</sub>	<u>0</u>
1,372	Na	→	Cl	<u>997</u>

Compound	Equiv. Wt.	X	Meg/l	=	Mg/l
Ca(HCO <sub>3</sub> ) <sub>2</sub>	81.04	<u>1</u>			<u>81</u>
CaSO <sub>4</sub>	68.07				
CaCl <sub>2</sub>	55.50				
Mg(HCO <sub>3</sub> ) <sub>2</sub>	73.17	<u>4</u>			<u>293</u>
MgSO <sub>4</sub>	60.19				
MgCl <sub>2</sub>	47.62				
NaHCO <sub>3</sub>	84.00	<u>375</u>			<u>31,500</u>
Na <sub>2</sub> SO <sub>4</sub>	71.03				
NaCl	58.46	<u>997</u>			<u>58,285</u>

**Saturation Values****Distilled Water 20°C**CaCO<sub>3</sub>

13 Mg/l

CaSO<sub>4</sub> · 2H<sub>2</sub>O

2,090 Mg/l

MgCO<sub>3</sub>

103 Mg/l

**Na = 31,556**

REMARKS \_\_\_\_\_

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

REENTRY NOTICES AND REPORTS ON WELLS

Do not use this form to request a permit to drill or to deepen or reentry a different reservoir.  
See APPLICATION FOR PERMIT - "A" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well



2. Name of Operator

INLAND ENERGY

3. Address of Operator

Rt. 3 Box 2

4. Location of Well

2085 E. N. 1/4

GREEN RIVER COMPANY

1000 N. 10th St. N. 4052 435-646-3721

SW NE Section 27, T08S R17E

5. Lease Designation and Serial No.

UTU-76241

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or C.A. Agreement Designation

GREATER BOUNDARY

8. Well Name and No.

GREATER BOUNDARY 7-27-8-17

9. API Well No.

43-013-32232

10. Field and Pool, or Exploratory Area

MONUMENT BUTTE

11. County or Parish, State

DUCHESNE COUNTY, UTA

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE

SUBMISSION

TYPE OF ACTION

1. Initial completion report  
2. Recompletion report  
3. Plugging report  
4. Casing Report  
5. Altering casing  
6. Other

- ☐ Abandonment  
☐ Recompletion  
☐ Plugging report  
☐ Casing Report  
☐ Altering casing  
☒ Other

Status Report

- ☐ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☐ Conversion to Injection  
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe the work to be done, including the proposed dates (begin and estimated date of starting any proposed work. If well is directional, also include the proposed drilling direction and zones proposed to this work.)

Status report from 7/2/01 through 7/8/01.

Subject: well completion procedures initiated on 7/2/01. Three Green River intervals have been perforated and hydraulically fractured. Two additional intervals await treatment at present time.

14. Thereby, I certify

Signature

*Harry Duff*

Title

Completion Foreman

Date

7/9/01

CC ( )

Has been

Approved by

Title

Date

Consolidated by

CC ( )

Print Name

I, the undersigned, hereby certify that I willfully make to any department or agency of the United States any false, fictitious

or fraudulent statement

in violation of the provisions of

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry a different reservoir.  
Use "APPLICATION FOR PERMIT -" for such proposals

**SUBMIT IN TRIPLICATE**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

**INLAND PRODUCTION COMPANY**

3. Address and Telephone No.

**Rt. 3 Box 3630, Myton Utah, 84052 435-646-3721**

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)

**2085 FNL 2203 FWL SW/NE Section 27, T08S R17E**

5. Lease Designation and Serial No.

**UTU-76241**

6. If Indian, Allottee or Tribe Name

**NA**

7. If Unit or CA, Agreement Designation

**GREATER BOUNDARY**

8. Well Name and No.

**GREATER BOUNDARY 7-27-8-17**

9. API Well No.

**43-013-32232**

10. Field and Pool, or Exploratory Area

**MONUMENT BUTTE**

11. County or Parish, State

**DUCHESNE COUNTY, UTAH**

12. CHECK APPROPRIATE BOX(es) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

☐ Notice of Intent  
☒ Subsequent Report  
☐ Final Abandonment Notice

TYPE OF ACTION

☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☒ Other **Status Report**

☐ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☐ Conversion to Injection  
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Status report for time period 7/9/01 through 7/15/01.

Subject well had completion procedures initiated on 7/2/01. A total of five Green River intervals were perforated and hydraulically fracture treated W/ 20/40 mesh sand. Bridge plugs and sand plugs were removed from wellbore. Zones were swab tested to clean up sand. Production equipment was ran in well. Well began producing on rod pump on 7/13/01.

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JUL 16 2001  
DIVISION OF  
OIL & GAS

14. I hereby certify that the foregoing is true and correct

Signed

*Gary Dietz*  
Gary Dietz

Title

**Completion Foreman**

Date

**7/16/01**

CC: UTAH DOGM

(This space for Federal or State office use)

Approved by

Title

Date

Conditions of approval, if any:

CC: Utah DOGM

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG\*

## 1a. TYPE OF WORK

OIL  
WELL ☒GAS  
WELL ☐DRY ☐

Other \_\_\_\_\_

## 1b. TYPE OF WELL

NEW  
WELL ☒WORK  
OVER ☐DEEPEN ☐PLUG  
BACK ☐DIFF  
RESVR. ☐

Other \_\_\_\_\_

## 2. NAME OF OPERATOR

INLAND RESOURCES INC.

## 3. ADDRESS AND TELEPHONE NO.

410 17th St. Suite 700 Denver, CO 80202

## 4. LOCATION OF WELL (Report locations clearly and in accordance with any State requirements.)\*

At Surface 2085' FNL &amp; 2203' FEL SWNE Sec. 27 T8S R17E

At top prod. Interval reported below

At total depth

14. API NO.

43-013-32232

DATE ISSUED

2/27/01

12. COUNTY OR PARISH

Duchesne

13. STATE

UT

## 15. DATE SPUNDED

4/25/01

## 16. DATE T.D. REACHED

5/29/01

## 17. DATE COMPL. (Ready to prod.)

7/13/01

## 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)\*

5146' GR

5156' KB

## 19. ELEV. CASINGHEAD

## 20. TOTAL DEPTH, MD &amp; TVD

6270' KB

## 21. PLUG BACK T.D., MD &amp; TVD

6248' KB

22. IF MULTIPLE COMPL.,  
HOW MANY\*23. INTERVALS  
DRILLED BY

-----&gt;

## ROTARY TOOLS

X

## CABLE TOOLS

## 24. PRODUCING INTERVAL(S), OF THIS COMPLETION--TOP, BOTTOM, NAME (MD AND TVD)\*

Green River 4627'-6174'

25. WAS DIRECTIONAL  
SURVEY MADE

No

## 26. TYPE ELECTRIC AND OTHER LOGS RUN

6-4-01  
DIGILOG/CDLGR/Cal - 7-2-01

## 27. WAS WELL CORED

No

## 28. CASING RECORD (Report all strings set in well)

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
8-5/8" - J-55	24#	307.66'	12-1/4"	To surface with 145 sx Class "G" cmt	
5-1/2" - J-55	15.5#	6269.13'	7-7/8"	390 sx Premlite II and 575 sx 50/50 Poz	

## 29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2-7/8"	EOT @	TA @
						6153' KB	6051' KB

## 31. PERFORATION RECORD (Interval, size and number)

INTERVAL	SIZE	NUMBER	DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
(CP sands) 5931-35', 5962-76', 6023-30', 6070-74', 6132-40', 6160-74'	0.38"	153	5931'-6174'	Frac w/ 213,203 # 20/40 sand & 1297 bbl fluid. Note: Frac sand was radioactively tagged.
(LODC sand) 5710-13', 5118-27', 5745-54', 5769-75', 5780-90', 5795-5804, 5814-24'	0.38"	165	5710'-5824'	Frac w/ 471,789 # 20/40 sand & 2777 bbl fluid. Note: Frac sand was radioactively tagged.
(A sand) 5510-19', 5594-98', 5602-06', 5616-18', 5620-25'	0.38"	96	5510'-5625'	Frac w/ 154,860 # 20/40 sand & 905 bbl fluid
(C&D sands) 5007-11', 5023-26', 5036-43', 5271-74'	0.38"	68	5007'-5274'	Frac w/ 75,190 # 20/40 sand & 571 bbl fluid
(GB sand) 4627-29', 4647-52'	0.38"	28	4627'-4652'	Frac w/ 33,180 # 20/40 sand & 304 bbl fluid

## 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DATE FIRST PRODUCTION 7/13/01		PRODUCTION METHOD (Flowing, gas lift, pumping--size and type of pump) 2-1/2" x 1-1/2" x 15' RHAC Pump					WELL STATUS (Producing or shut-in) PRODUCING	
DATE OF TEST 10 day ave	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL--BBL. 117.9	GAS--MCF. 174.6	WATER--BBL. 26.3		GAS-OIL RATIO 1481
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL-BBL.	GAS--MCF.	WATER--BBL.		OIL GRAVITY-API (CORR.)	

## 34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

Sold &amp; Used for Fuel

## TEST WITNESSED BY

## 35. LIST OF ATTACHMENTS

## 36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

Kevin S. Weller

TITLE

Manager of Development Operations

DATE

8/22/01

BDH

\*(See Instructions and Spaces for Additional Data on Reverse Side)

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals, and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries);				38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
			Greater Boundary Unit #7-27-8-17	Garden Gulch Mkr	4090'	
				Garden Gulch 2	4388'	
				Point 3 Mkr	4666'	
				X Mkr	4890'	
				Y-Mkr	4927'	
				Douglas Creek Mkr	5060'	
				BiCarbonate Mkr	5362'	
				B Limestone Mkr	5460'	
				Castle Peak	5912'	
				Basal Carbonate		
				Total Depth (LOGGERS	6270'	





August 22, 2001

State of Utah, Division of Oil, Gas and Mining  
Attn: Ms. Carol Daneils  
P.O. Box 145801  
Salt Lake City, Utah 84144-5801

Attn: Ms. Carol Daneils

Greater Boundary Unit #3-27-8-17  
Greater Boundary Unit #7-27-8-17  
Duchesne County, UT

Dear Ms. Carol Daneils

Enclosed is a Well Completion or Recompletion Report and Log form (Form 3160-4). We are no longer sending Log copies since Dave Jull of Phoenix Surveys is already doing so.

If you should have any questions, please contact me at (303) 893-0102 ext. 1449

Sincerely,

Brian Harris  
Engineering Tech

Enclosures

cc: Bureau of Land Management  
Vernal District Office, Division of Minerals  
Attn: Edwin I. Forsman  
170 South 500 East  
Vernal, Utah 84078

Well File – Denver  
Well File – Roosevelt  
Patsy Barreau/Denver  
Bob Jewett/Denver

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**AUG 27 2001**

**DIVISION OF  
OIL, GAS AND MINING**



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, UT 84145-0155  
<http://www.blm.gov>



IN REPLY REFER TO:  
3106  
(UT-924)

September 16, 2004

### Memorandum

To: Vernal Field Office

From: Acting Chief, Branch of Fluid Minerals

Subject: Merger Approval

Attached is an approved copy of the name change recognized by the Utah State Office. We have updated our records to reflect the merger from Inland Production Company into Newfield Production Company on September 2, 2004.

Michael Coulthard  
Acting Chief, Branch of  
Fluid Minerals

### Enclosure

1. State of Texas Certificate of Registration

cc: MMS, Reference Data Branch, James Sykes, PO Box 25165, Denver CO 80225  
State of Utah, DOGM, Attn: Earlene Russell, PO Box 145801, SLC UT 84114  
Teresa Thompson  
Joe Incardine  
Connie Seare

UTSL-	15855	61052	73088	76561	
071572A	16535	62848	73089	76787	
065914	16539	63073B	73520A	76808	
	16544	63073D	74108	76813	
	17036	63073E	74805	76954	63073X
	17424	63073O	74806	76956	63098A
	18048	64917	74807	77233	68528A
UTU-	18399	64379	74808	77234	72086A
	19267	64380	74389	77235	72613A
02458	26026A	64381	74390	77337	73520X
03563	30096	64805	74391	77338	74477X
03563A	30103	64806	74392	77339	75023X
04493	31260	64917	74393	77357	76189X
05843	33992	65207	74398	77359	76331X
07978	34173	65210	74399	77365	76788X
09803	34346	65635	74400	77369	77098X
017439B	36442	65967	74404	77370	77107X
017985	36846	65969	74405	77546	77236X
017991	38411	65970	74406	77553	77376X
017992	38428	66184	74411	77554	78560X
018073	38429	66185	74805	78022	79485X
019222	38431	66191	74806	79013	79641X
020252	39713	67168	74826	79014	80207X
020252A	39714	67170	74827	79015	81307X
020254	40026	67208	74835	79016	
020255	40652	67549	74868	79017	
020309D	40894	67586	74869	79831	
022684A	41377	67845	74870	79832	
027345	44210	68105	74872	79833	
034217A	44426	68548	74970	79831	
035521	44430	68618	75036	79834	
035521A	45431	69060	75037	80450	
038797	47171	69061	75038	80915	
058149	49092	69744	75039	81000	
063597A	49430	70821	75075		
075174	49950	72103	75078		
096547	50376	72104	75089		
096550	50385	72105	75090		
	50376	72106	75234		
	50750	72107	75238		
10760	51081	72108	76239		
11385	52013	73086	76240		
13905	52018	73087	76241		
15392	58546	73807	76560		



## Office of the Secretary of State

The undersigned, as Secretary of State of Texas, does hereby certify that the attached is a true and correct copy of each document on file in this office as described below:

Newfield Production Company  
Filing Number: 41530400

Articles of Amendment

September 02, 2004

In testimony whereof, I have hereunto signed my name officially and caused to be impressed hereon the Seal of State at my office in Austin, Texas on September 10, 2004.



A handwritten signature in black ink, appearing to read "G. Connor".

Secretary of State

ARTICLES OF AMENDMENT  
TO THE  
ARTICLES OF INCORPORATION  
OF  
INLAND PRODUCTION COMPANY

FILED  
In the Office of the  
Secretary of State of Texas  
SEP 02 2004  
Corporations Section

Pursuant to the provisions of Article 4.04 of the Texas Business Corporation Act (the "TBCA"), the undersigned corporation adopts the following articles of amendment to the articles of incorporation:

ARTICLE 1 – Name

The name of the corporation is Inland Production Company.

ARTICLE 2 – Amended Name

The following amendment to the Articles of Incorporation was approved by the Board of Directors and adopted by the shareholders of the corporation on August 27, 2004.

The amendment alters or changes Article One of the Articles of Incorporation to change the name of the corporation so that, as amended, Article One shall read in its entirety as follows:

"ARTICLE ONE – The name of the corporation is Newfield Production Company."

ARTICLE 3 – Effective Date of Filing

This document will become effective upon filing.

The holder of all of the shares outstanding and entitled to vote on said amendment has signed a consent in writing pursuant to Article 9.10 of the TBCA, adopting said amendment, and any written notice required has been given.

IN WITNESS WHEREOF, the undersigned corporation has executed these Articles of Amendment as of the 1<sup>st</sup> day of September, 2004.

INLAND RESOURCES INC.

By: Susan G. Riggs  
Susan G. Riggs, Treasurer

**OPERATOR CHANGE WORKSHEET****ROUTING**

1. GLH

2. CDW

3. FILE

Change of Operator (Well Sold)

Designation of Agent/Operator

**X Operator Name Change****Merger**

The operator of the well(s) listed below has changed, effective:

**9/1/2004****FROM: (Old Operator):**

N5160-Inland Production Company

Route 3 Box 3630

Myton, UT 84052

Phone: 1-(435) 646-3721

**TO: ( New Operator):**

N2695-Newfield Production Company

Route 3 Box 3630

Myton, UT 84052

Phone: 1-(435) 646-3721

**CA No.****Unit:****GREATER BOUNDARY (GR)****WELL(S)**

NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
GBU 3-27-8-17	27	080S	170E	4301332224	12391	Federal	WI	A
GBU 5-27-8-17	27	080S	170E	4301332225	12391	Federal	OW	P
GBU 12-27-8-17	27	080S	170E	4301332226	12391	Federal	OW	P
GBU 1-27-8-17	27	080S	170E	4301332228	12391	Federal	OW	P
GBU 2-27-8-17	27	080S	170E	4301332229	12391	Federal	OW	P
GBU 4-27-8-17	27	080S	170E	4301332230	12391	Federal	OW	P
GBU 6-27-8-17	27	080S	170E	4301332231	12391	Federal	OW	P
GBU 7-27-8-17	27	080S	170E	4301332232	12391	Federal	OW	P
GBU 8-27-8-17	27	080S	170E	4301332233	12391	Federal	OW	P
GBU 9-27-8-17	27	080S	170E	4301332234	12391	Federal	OW	P
GBU 10-27-8-17	27	080S	170E	4301332235	12391	Federal	OW	P
GBU 11-27-8-17	27	080S	170E	4301332243	12391	Federal	OW	P
GBU 13-27-8-17	27	080S	170E	4301332244	12391	Federal	OW	P
GBU 14-27-8-17	27	080S	170E	4301332245	12391	Federal	OW	P
TAR SANDS FED 9-28-8-17	28	080S	170E	4301332067	12391	Federal	WI	A
TAR SANDS FED 8-28-8-17	28	080S	170E	4301332068	12391	Federal	OW	P
TAR SANDS FED 7-28-8-17	28	080S	170E	4301332069	12391	Federal	WI	A
TAR SANDS FED 15-28-8-17	28	080S	170E	4301332109	12391	Federal	WI	A
TAR SANDS FED 16-28-8-17	28	080S	170E	4301332111	12391	Federal	OW	P
GREATER BOUNDARY 11-28-8-17	28	080S	170E	4301332134	12391	Federal	WI	A

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 9/15/20042. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 9/15/20043. The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 2/23/20054. Is the new operator registered in the State of Utah: YES Business Number: 755627-01435. If **NO**, the operator was contacted on:

6a. (R649-9-2)Waste Management Plan has been received on: IN PLACE  
6b. Inspections of LA PA state/fee well sites complete on: waived

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM BIA

8. **Federal and Indian Units:**  
The BLM or BIA has approved the successor of unit operator for wells listed on: n/a

9. **Federal and Indian Communization Agreements ("CA"):**  
The BLM or BIA has approved the operator for all wells listed within a CA on: na/

10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 2/23/2005

**DATA ENTRY:**

1. Changes entered in the **Oil and Gas Database** on: 2/28/2005  
2. Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 2/28/2005  
3. Bond information entered in RBDMS on: 2/28/2005  
4. Fee/State wells attached to bond in RBDMS on: 2/28/2005  
5. Injection Projects to new operator in RBDMS on: 2/28/2005  
6. Receipt of Acceptance of Drilling Procedures for APD/New on: waived

**FEDERAL WELL(S) BOND VERIFICATION:**

1. Federal well(s) covered by Bond Number: UT 0056

**INDIAN WELL(S) BOND VERIFICATION:**

1. Indian well(s) covered by Bond Number: 61BSBDH2912

**FEE & STATE WELL(S) BOND VERIFICATION:**

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number 61BSBDH2919  
2. The **FORMER** operator has requested a release of liability from their bond on: n/a\*  
The Division sent response by letter on: n/a

**LEASE INTEREST OWNER NOTIFICATION:**

3. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: n/a

**COMMENTS:**

\*Bond rider changed operator name from Inland Production Company to Newfield Production Company - received 2/23/05



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 300  
DENVER, CO 80202-2466  
Phone 800-227-8917  
<http://www.epa.gov/region08>

APR 13 2005

4301332232

Ref: 8P-W-GW

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
**FOR RECORD ONLY**

Mr. Mike Guinn  
Vice President - Operations  
Newfield Production Co.  
Route 3 - Box 3630  
Myton, Utah 84502

RE: ADDITIONAL WELL TO AREA PERMIT  
Boundary Area Permit: UT20702-00000  
**Greater Boundary No. 7-27-8-17**  
**Well ID: 20702-06485**  
SW NE Sec. 27 - T8S - 17E  
Duchesne County, Utah

Dear Mr. Guinn:

The Newfield Production Co. (Newfield) request **to convert** a former Green River Formation oil well, the Greater Boundary No. 7-27-8-17, to a Garden Gulch-Douglas Creek-Basal Carbonate Members of the Green River Formation enhanced recovery injection well in the Boundary Area Permit is hereby authorized. The proposed Greater Boundary No. 7-27-8-17 Class II enhanced recovery injection well is within the exterior boundary of the Boundary Area Permit UT20702-00000; is within the exterior boundary of the Uintah & Ouray Indian Reservation; and the addition is being made under the authority of 40 CFR § 144.33 (c) and the terms of the Area Permit. Unless specifically mentioned in the enclosed Authorization For An Additional Well, all terms and conditions of the original Area Permit will apply to the conversion, operation, monitoring, and plugging and abandonment of the Greater Boundary No. 7-27-8-17.

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**APR 15 2005**

DIV. OF OIL, GAS & MINING



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Prior to beginning injection, the Environmental Protection Agency (EPA) requires that Newfield submit for review and approval (1) the results of a **Part I (Internal) mechanical integrity test (MIT)**, (2) a **pore pressure** calculation of the injection interval, (3) an **EPA Form No. 7520-12** (Well Rework Record, enclosed).

Part II. Section C. Condition No. 4 (b), (Injection Pressure Limitation), Greater Boundary Area Permit (UT20702-00000), cites the method by which the maximum allowable injection pressure (MAIP) shall be calculated for each Additional Well to the Boundary Area Permit. As a result, the MAIP for the Greater Boundary No. 7-27-8-17 shall not exceed **1380 psig**. The Boundary Area Permit, Part II. C. 4., provides an opportunity for the permittee to request an increase, or decrease, in the initial maximum surface injection pressure.

Because the Cement Bond Log (CBL) submitted for this well did not show any 80% bond index cement bond within the Confining Zone overlying the Garden Gulch Member, **the operator shall be required to demonstrate Part II (External) Mechanical Integrity within a 180-Day Limited Authorization to Inject period**. This demonstration may be made by a Temperature Survey, Noise Log, or Oxygen Activation Log, and Region 8 may accept the results from a Radioactive Tracer Survey (RATS) under certain circumstances. A limited period of authorization to inject is for the purpose of stabilizing the injection zone prior to this demonstration.

Current copies of Guidances for conducting Part II (External) Mechanical Integrity Tests will be submitted upon request.

Please be aware that Newfield does not have authorization to begin injection into the Greater Boundary No. 7-27-8-17 until the Prior to Commencing Injection requirements, listed above, have been submitted and evaluated by the EPA, and Newfield has received written authorization to begin injection from the Assistant Regional Administrator, or the Assistant Regional Administrator's authorized representative.

If Newfield has any questions, please call Mr. Dan Jackson at (800) 227-8917 (Ext. 6155), or in the Denver area at (303) 312-6155. Please submit the required pre-authorization to inject data to **ATTENTION: DAN JACKSON**, at the letterhead address, citing **MAIL CODE: 8P-W-GW** very prominently.

Sincerely,



Stephen S. Tuber  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance

enclosures: Authorization For Conversion of An Additional Well  
 EPA Form No. 7520-12 (Well Rework Record)  
 Guidance No. 39: Part I Mechanical Integrity (Internal)  
 Schematic Diagram: Proposed Conversion

cc w/ enclosures: Maxine Natchees  
 Chairperson  
 Uintah & Ouray Business Committee  
 Ute Indian Tribe

Elaine Willie  
 Environmental Coordinator  
 Ute Indian Tribe

Chester Mills  
 Superintendent  
 Bureau of Indian Affairs  
 Uintah & Ouray Indian Agency

David Gerbig  
 Operations Engineer  
 Newfield Production Company  
 Denver, CO 80202

Gil Hunt  
 Technical Services Manager  
 State of Utah - Natural Resources

Kirk Fleetwood  
 Petroleum Engineer  
 Bureau of Land Management  
 Vernal District



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 300  
DENVER, CO 80202-2466  
Phone 800-227-8917  
<http://www.epa.gov/region08>

AUTHORIZATION FOR AN ADDITIONAL WELL  
TO THE  
BOUNDARY AREA PERMIT: UT20702-00000

The Environmental Protection Agency (EPA) authorizes the inclusion of an additional enhanced recovery injection well to the Boundary Area Permit No. UT20702-00000, as authorized by 40 CFR § 144.33 (c). The additional well is described as:

**WELL NAME: GREATER BOUNDARY NO. 7-27-8-17**

**WELL PERMIT NUMBER: UT20702-06485**

**SURFACE LOCATION:** 2085' FNL & 2203' FEL (SW NE)  
Sec. 27 - T8S - R17E  
Duchesne County, Utah.

This well is subject to all provisions of the original Boundary Area Permit No. UT20702-00000, and subsequent Modifications, unless specifically detailed below:

**UNDERGROUND SOURCE OF DRINKING WATER (USDW):** The base of the USDW (Total Dissolved Solids less than 10,000 mg/l) occurs within the Uinta Formation less than 50 feet from ground level (GL). The source for the location of the base of the USDW is the STATE OF UTAH: PUBLICATION NO. 2. BASE OF MODERATELY SALINE GROUND WATER IN THE UINTA BASIN, UTAH. Surface casing was set at 307 feet kelly bushing (KB) and cemented to the surface.

Reference: <http://NRWRT1.NR.STATE.UT.US...> Water Rights...Queries...POD: Within the one-quarter (1/4) mile Area-of-Review (AOR) around the Greater Boundary No. 7-27-8-17 there are no reservoirs, streams, springs or wells.

**WATER ANALYSES:**

Produced Green River Formation Water: (6/24/04) 12,005 mg/l TDS.

Source Water: Johnson Water District Reservoir. (3/31/04) 400 mg/l TDS.

Blended Injectate: (6/30/01) 6719 mg/l TDS.



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### **CONFINING ZONE REVIEW: GREATER BOUNDARY NO. 7-27-8-17.**

The EPA has authorized the gross interval from the top of the Garden Gulch Member to the top of the Wasatch as the enhanced recovery injection interval within the Boundary Area Permit. Overlying the top of the Garden Gulch Member (4092 feet), in the Greater Boundary No. 7-27-8-17, are thirty-one (31) feet of Green River Formation black, slightly silty, impervious shale which forms an effective lithologic **confining zone 4061 feet to 4092 feet.**

### **INJECTION ZONE REVIEW: GREATER BOUNDARY NO. 7-27-8-17.**

The Greater Boundary No. 7-27-8-17 Final Area Permit (Effective February 8, 1994) authorized injection into the Douglas Creek Member of the Green River Formation. By Major Permit Modification No. 3 (Effective May 19, 2003), the EPA authorized the gross Green River Formation Garden Gulch-Douglas Creek-Basal Carbonate Members as the enhanced recovery injection interval for the Boundary Area Permit. This Modification also recognized the **Federal No. 1-26** (NE NW Sec. 26 - T8S - R17E), UIC Permit No. UT20702-04671, as the **TYPE WELL** for identifying the tops of the Garden Gulch Member, the Douglas Creek Member, the Basal Carbonate Member, the top of the Wasatch Formation and the "Confining Zone" overlying the top of the Garden Gulch Member.

**The authorized injection zone for the Greater Boundary No. 7-27-8-17 will be from the Garden Gulch Member (4092 feet) to the top of the Wasatch Formation (Estimated to be 6441 feet).**

Lithologically, the gross authorized enhanced recovery injection interval, Garden Gulch to the top of the Wasatch Formation, is fluvial and lacustrine shale, fluvial and lacustrine sandstone, lacustrine marlstone, and limestone. The Uinta and Green River Formations are predominantly non-lacustrine fluvial shale and sandstone on the basin margins, whereas lacustrine deposition predominates in the central basin area for these two formations. The Wasatch Formation is predominantly fluvial, except for increasing minor lacustrine deposition in the central basin area.

### **WELL CONSTRUCTION REVIEW: GREATER BOUNDARY NO. 7-27-8-17.**

**SURFACE CASING:** 8-5/8 inch casing is set at 307 feet in a 12-1/4 inch hole, using 145 sacks of Class "G" cement circulated to the surface. The base of the USDW is less than fifty (50) feet from ground level.

**LONGSTRING CASING:** 5-1/2 inch casing is set at 6269 feet kelly bushing (KB) in a 7-7/8 inch hole, and cemented with 350 sacks of Premium Lite II mixed and 575 sacks of 50/50 Pozmix.

The operator identifies the top of cement at 720 feet.

The EPA analysis of the CBL/GR identifies 80% cement bond index from 4136 feet to 4468 feet.

An EPA analysis of the Greater Boundary No. 7-27-8-17 CBL/GR did not identify continuous 80% bond index cement bond across the Garden Gulch Member confining zone, pursuant to standards of Region 8 GROUND WATER SECTION GUIDANCE NO. 34: Cement Bond Logging Techniques and Interpretation. Therefore, **it has been determined that the cement in this well may not provide an effective barrier to upward movement of fluids through vertical channels adjacent to the wellbore, pursuant to 40 CFR 146.8 (a) (2). The permittee will be required to demonstrate Part II Mechanical Integrity (MI) within a 180-day period of limited authorization to inject**

## **PART II. A. CONSTRUCTION REQUIREMENTS FOR ADDITIONAL WELLS**

### Tubing and Packer:

(Condition 3)

For injection purposes, the **Greater Boundary No. 7-27-8-17** shall be equipped with 2-7/8 tubing with a packer to be set at a depth no higher than 100 feet above the top perforation.

### Formation Testing and Logging

(Condition 6)

- (a) Upon conversion of the **Greater Boundary No. 7-27-8-17**, the permittee is required to determine the injection zone **fluid pore pressure** (static bottom hole pressure) prior to commencement of enhanced recovery injection operation. The results of this test shall be submitted to the EPA.
- (b) A **Step-Rate Test (SRT)** shall be performed on the **Greater Boundary No. 7-27-8-17** within three (3) to six (6) months after injection operations are initiated and the results submitted to the EPA. The permittee may contact the EPA prior to conducting the SRT to acquire the most current Guidance for conducting the SRT.

## PART II. B.

### Corrective Action

As of March 2005, there are four (4) active Green River oil wells within the one-quarter (1/4) mile radius around the Greater Boundary No. 7-27-8-17. No wells need Corrective Action.

#### Garden Gulch-Douglas Creek Members Oil Well:

##### Greater Boundary No. 2-27-8-17:

NW SE Sec. 27 -T8S-R17E

Top Garden Gulch Member:	4106 feet
Garden Gulch Confining Zone:	4052 feet to 4106 feet
Top 80% EPA Cement Bond:	4074 feet - 4092 feet
Top Douglas Creek Member:	5098 feet
Top Basal Carbonate Member:	6242 feet
Total Depth (Driller):	6304 feet in Basal Carbonate Member

The 54-foot confining shale overlying the top of the Garden Gulch Member is protected by 80% bond index cement bond. This confining zone annulus cement may prevent upward movement of injected fluids through vertical channels adjacent to the well bore. **Any observation of surface leakage may be considered as noncompliance with the Greater Boundary No. 7-27-8-17 Permit.** The Greater Boundary No. 7 -27-8-17 shall suspend operations immediately, and will stay suspended until the noncompliance has been resolved, and renewed injection has been approved in writing by the Director.

##### Greater Boundary No. 8-27-8-17:

SE NE Sec. 27-T8S-R17E

Top Garden Gulch Member:	4053 feet
Garden Gulch Confining Zone:	4000 feet to 4053 feet
Top 80% EPA Cement Bond:	4150 feet to 4402 feet
Top Douglas Creek Member:	5100 feet
Total Depth (Driller):	6300 feet in Douglas Creek Member

The 53-foot confining shale overlying the top of the Garden Gulch Member is not protected by 80% bond index cement bond. This lack of confining zone annulus cement may not prevent upward movement of injected fluids through vertical channels adjacent to the well bore. The permittee will be required to inspect the surface of this location for fluid leaks on a weekly basis. **Any observation of surface leakage may be considered as noncompliance with the Greater Boundary No. 7-27-8-17 Permit.** The Greater Boundary No. 7-27-8-17 shall suspend operations immediately, and will stay suspended until the noncompliance has been resolved, and renewed injection has been approved in writing by the Director.

**Tar Sands Federal No .9-27-8-17:**

NE SE Sec. 27-T8S-R17E

Top Garden Gulch Member:	4052 feet
Garden Gulch Confining Zone:	3980 feet to 4052 feet
Top 80% EPA Cement Bond:	3900 feet to 4296 feet
Top Douglas Creek Member:	5042 feet
Top Basal Carbonate Member:	6326 feet
Total Depth ( Driller):	6330 feet in Basal Carbonate Member

The 72-foot confining shale overlying the top of the Garden Gulch Member is protected by 80% bond index cement bond. This confining zone annulus cement may prevent upward movement of injected fluids through vertical channels adjacent to the well bore. **Any observation of surface leakage may be considered as noncompliance with the Greater Boundary No. 7-27-8-17 Permit.** The Greater Boundary No. 7-27-8-17 shall suspend operations immediately, and will stay suspended until the noncompliance has been resolved, and renewed injection has been approved in writing by the Director.

**Douglas Creek Member Oil Well:****Greater Boundary No. 10-27-8-17:**

NW SE Sec. 27-T8S-R17E

Top Garden Gulch Member:	4056 feet
Garden Gulch Confining Zone:	4018 feet to 4056 feet
Top 80% EPA Cement Bond:	3980 feet to 4034 feet
Top Douglas Creek Member:	5102 feet
Top Basal Carbonate Member:	6322 feet
Total Depth (Driller):	6397 feet in Basal Carbonate Member

The 38-foot confining shale overlying the top of the Garden Gulch Member is protected by 80% bond index cement bond. This confining zone annulus cement may prevent upward movement of injected fluids through vertical channels adjacent to the well bore. **Any observation of surface leakage may be considered as noncompliance with the Greater Boundary No. 7-27-8-17 Permit.** The Greater Boundary No. 7-27-8-17 shall suspend operations immediately, and will stay suspended until the noncompliance has been resolved, and renewed injection has been approved in writing by the Director.

## PART II. C.

Prior to Commencing Injection (Additional Wells)

(Condition 2)

**Greater Boundary No. 7-27-8-17:** This document is being issued without authority to inject. Prior to beginning injection, the operator is required to submit the following information for EPA review and written approval:

- A successful **mechanical integrity test (MIT)** demonstrating Part I Internal MI (Enclosed);
- a **pore pressure calculation** of the proposed injection zone; and an
- EPA Form No. 7520-12 (**Well Rework Record**, enclosed).

Confirmation that the injectate will be confined to the authorized injection zone: It has been determined that the annulus cement in this well may not provide an effective barrier to significant upward movement of fluids through vertical channels adjacent to the wellbore (Part II MI), pursuant to 40 CFR §146.8 (a) (2). Within a **180-day Limited Authorization to Inject Period**, the permittee/operator shall demonstrate **Part II (External) Mechanical Integrity**

Injection Interval

(Condition 3)

Injection shall be limited to the gross Garden Gulch, Douglas Creek and Basal Carbonate Members of the Green River Formation from 4092 feet (KB) to the top of the Wasatch Formation, estimated to be 6441 feet (KB).

Injection Pressure Limitation

(Condition 4)

Pursuant to Final Area Permit UT20702-00000, Part II. Section C. 4. (b). the maximum allowable injection pressure (MAIP) shall not exceed 1800 psig. Until such time that a Step-Rate Test (SRT) has been performed, reviewed and approved by the EPA, the initial MAIP for the Greater Boundary No. 7-27-8-17 shall not exceed **1380 psig**.

A fracture gradient (FG) of **0.780 psi/ft** is the minimum value FG calculated from five (5) sand/frac treatments. A review of FG values within Section 27, and proximate to Section 27, indicate that a FG of 0.780 is higher than most sand/frac or SRT-derived FG. A **FG of 0.733**, which value is similar to a SRT derived FG in Section 27, will be used for the calculation of the **initial MAIP** for the Greater Boundary No. 7-27-8-17.



Until such time that a step-rate injectivity test (SRT) has been performed, reviewed, and approved by the EPA, the initial maximum allowable injection pressure (MAIP) for the **Greater Boundary No. 7-27-8-17** shall not exceed **1380 psig**.

$$\text{MAIP} = [\text{FG} - (0.433)(\text{SG}) \text{ D}]$$

$$\text{FG} = 0.733 \text{ psi/ft}$$

$$\text{SG} = 1.005$$

$$\text{D} = 4627 \text{ feet. Top perforation.}$$

$$\text{MAIP} = [0.733 - (0.433)(1.005)] 4627$$

$$\text{MAIP} = 1378 \text{ psig, but rounded up to } \mathbf{1380 \text{ psig.}}$$

Part II. C. 4. (b) Final Area Permit (UT20702-00000), has a provision whereby the operator may request an increase, or decrease, in the maximum surface injection pressure.

## **PART II. F.**

### Demonstration of Financial Responsibility:

(Condition 1)

The current plugging and abandonment cost for the Greater Boundary No. 7-27-8-17 is estimated to be \$33,025.00. The applicant has chosen to demonstrate financial responsibility via a **Financial Statement** that has been reviewed and approved by the EPA.

## **PART III. E.**

### Reporting of Noncompliance:

(Condition 10)

- (a) Anticipated Noncompliance. The operator shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (b) Compliance Schedules. Reports of compliance or noncompliance with, or any progress on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted **no later than thirty (30) days following each schedule date.**
- (c) Written Notice of any noncompliance which may endanger health or the environment **shall be reported to the Director within five (5) days** of the time the operator becomes aware of the noncompliance. The written notice shall contain a description of the noncompliance and its cause; the period of noncompliance including dates and times; if the noncompliance has not been corrected the anticipated time it is expected

to continue; and steps taken or planned to prevent or reduce recurrence of the noncompliance.

Twenty-Four Hour Noncompliance Reporting:

(Condition 11)

**The operator shall report to the Director any noncompliance which may endanger health or environment.** Information shall be provided, either orally or by leaving a message, within twenty-four (24) hours from the time the operator becomes aware of the circumstances by telephoning **1-800-227-8917** and asking for the **EPA Region VIII UIC Program Compliance and Enforcement Director**, or by contacting the **Region VIII Emergency Operations Center at 303-293-1788** if calling from outside EPA Region VIII. The following information shall be included in the verbal report:

- (a) Any monitoring or other information which indicates that any contaminant may cause an endangerment to a USDW.
- (b) Any noncompliance with a Permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

Oil Spill and Chemical Release Reporting:

(Condition 12)

The operator shall comply with all other reporting requirements related to oil spills and chemical releases or other potential impacts to human health or the environment by contacting the **National Response Center (NRC) 1-800-424-8802 or 202-267-2675**, or through the NRC website at **<http://www.nrc.uscg.mil/index.htm>**.

Other Noncompliance:

(Condition 13)

The operator shall report all other instances of noncompliance not otherwise reported at the time monitoring reports are submitted. The reports shall contain the information listed in Part III. 10. c. ii. of this Permit.

Other Information: Where the operator becomes aware that he failed to submit any relevant facts in the Permit application, or submitted incorrect information in a Permit application, or in any report to the Director, the operator shall submit such correct facts or information within two (2) weeks of the time such information became known to him.

## APPENDIX C

PLUGGING AND ABANDONMENT: The Plugging and Abandonment (P&A) Plan (Application Attachment Q-2) submitted by the applicant has been reviewed and approved by the EPA. The P&A Plan is consistent with EPA requirements to protect all USDWs. The permittee will place 9.2 ppg plugging gel or bentonite mud between all cement plugs.

PLUG NO. 1: Set a cast iron bridge plug (CIBP) at 4530 feet. Place 100 feet of Class "G" cement on top of CIBP.

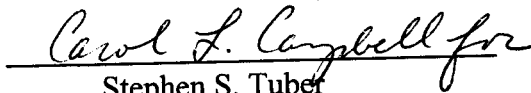
PLUG NO. 2: Set a cement plug inside of the 5-1/2 inch casing from 2000 feet to 2200 feet over a water zone.

Perforate 4 JSPF at 358 feet.

PLUG NO. 3: Pump Class "G" cement from the surface down the 5-1/2 inch casing and up the 5-1/2 inch X 8-5/8 inch annulus to the surface..

This authorization for well conversion of the Greater Boundary No. 7-27-8-17 to an injection well becomes effective upon signature.

Date: ~~APR 13~~ 2005



Stephen S. Tuber

Assistant Regional Administrator

Office of Partnerships and Regulatory Assistance

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

## WELL REWORK RECORD



NAME AND ADDRESS OF PERMITTEE

NAME AND ADDRESS OF CONTRACTOR

LOCATE WELL AND OUTLINE UNIT ON  
SECTION PLAT — 640 ACRES

STATE

COUNTY

PERMIT NUMBER

SURFACE LOCATION DESCRIPTION

1/4 of 1/4 of 1/4 of 1/4 of Section Township Range

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface  
Location \_\_\_\_ ft. from (N/S) \_\_\_\_ Line of quarter section  
and \_\_\_\_ ft. from (E/W) \_\_\_\_ Line of quarter section

## WELL ACTIVITY

- ☐ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage

Lease Name

Total Depth Before Rework

Total Depth After Rework

Date Rework Commenced

Date Rework Completed

## TYPE OF PERMIT

- ☐ Individual  
☐ Area  
 Number of Wells \_\_\_\_

Well Number

## WELL CASING RECORD — BEFORE REWORK

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	

## WELL CASING RECORD — AFTER REWORK (Indicate Additions and Changes Only)

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	

DESCRIBE REWORK OPERATIONS IN DETAIL  
USE ADDITIONAL SHEETS IF NECESSARY

## WIRE LINE LOGS. LIST EACH TYPE

Log Types

Logged Intervals

## CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).

NAME AND OFFICIAL TITLE (Please type or print)

SIGNATURE

DATE SIGNED



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500  
DENVER, COLORADO 80202-2466

SUBJECT: GROUND WATER SECTION GUIDANCE NO. 39  
Pressure testing injection wells for Part I (internal)  
Mechanical Integrity

FROM: Tom Pike, Chief  
UIC Direct Implementation Section

TO: All Section Staff  
Montana Operations Office

Introduction

The Underground Injection Control (UIC) regulations require that an injection well have mechanical integrity at all times (40 CFR 144.28 (f)(2) and 40 CFR 144.51 (q)(1)). A well has mechanical integrity (40 CFR 146.8) if:

- (1) There is no significant leak in the tubing, casing or packer; and
- (2) There is no significant fluid movement into an underground source of drinking water (USDW) through vertical channels adjacent to the injection wellbore.

Definition: Mechanical Integrity Pressure Test for Part I. A pressure test used to determine the integrity of all the downhole components of an injection well, usually tubing, casing and packer. It is also used to test tubing cemented in the hole by using a tubing plug or retrievable packer. Pressure tests must be run at least once every five years. If for any reason the tubing/packer is pulled, the injection well is required to pass another mechanical integrity test of the tubing casing and packer prior to recommencing injection regardless of when the last test was conducted. Tests run by operators in the absence of an EPA inspector must be conducted according to these procedures and recorded on either the attached form or an equivalent form containing the necessary information. A pressure recording chart documenting the actual annulus test pressures must be attached to the form.

This guidance addresses making a determination of Part I of Mechanical Integrity (no leaks in the tubing, casing or packer). The Region's policy is: 1) to determine if there are significant leaks in the tubing, casing or packer; 2) to assure that the casing can withstand pressure similar to that which



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would be applied if the tubing or packer fails; 3) to make the Region's test procedure consistent with the procedures utilized by other Region VIII Primacy programs; and 4) to provide a procedure which can be easily administered and is applicable to all class I and II wells. Although there are several methods allowed for determining mechanical integrity, the principal method involves running a pressure test of the tubing/casing annulus. Region VIII's procedure for running a pressure test is intended to aid UIC field inspectors who witness pressure tests for the purpose of demonstrating that a well has Part I of Mechanical Integrity. The guidance is also intended as a means of informing operators of the procedures required for conducting the test in the absence of an EPA inspector.

### Pressure Test Description

#### Test Frequency

The mechanical integrity of an injection well must be maintained at all times. Mechanical integrity pressure tests are required at least every five (5) years. If for any reason the tubing/packer is pulled, however, the injection well is required to pass another mechanical integrity test prior to recommencing injection regardless of when the last test was conducted. The Regional UIC program must be notified of the workover and the proposed date of the pressure test. The well's test cycle would then start from the date of the new test if the well passes the test and documentation is adequate. Tests may be required on a more frequent basis depending on the nature of the injectate and the construction of the well (see Section guidance on MITs for wells with cemented tubing and regulations for Class I wells).

Region VIII's criteria for well testing frequency is as follows:

1. Class I hazardous waste injection wells; initially [40 CFR 146.68(d)(1)] and annually thereafter;
2. Class I non-hazardous waste injection wells; initially and every two (2) years thereafter, except for old permits (such as the disposal wells at carbon dioxide extraction plants which require a test at least every five years);
3. Class II wells with tubing, casing and packer; initially and at least every five (5) years thereafter;
4. Class II wells with tubing cemented in the hole; initially and every one (1) or two (2) years thereafter



depending on well specific conditions (See Region VIII UIC Section Guidance #36);

5. Class II wells which have been temporarily abandoned (TAd) must be pressure tested after being shut-in for two years; and
6. Class III uranium extraction wells; initially.

### Test Pressure

To assure that the test pressure will detect significant leaks and that the casing is subjected to pressure similar to that which would be applied if the tubing or packer fails, the tubing/casing annulus should be tested at a pressure equal to the maximum allowed injection pressure or 1000 psig whichever is less. The annular test pressure must, however, have a difference of at least 200 psig either greater or less than the injection tubing pressure. Wells which inject at pressures of less than 300 psig must test at a minimum pressure of 300 psig, and the pressure difference between the annulus and the injection tubing must be at least 200 psi.

### Test Criteria

1. The duration of the pressure test is 30 minutes.
2. Both the annulus and tubing pressures should be monitored and recorded every five (5) minutes.
3. If there is a pressure change of 10 percent or more from the initial test pressure during the 30 minute duration, the well has failed to demonstrate mechanical integrity and should be shut-in until it is repaired or plugged.
4. A pressure change of 10 percent or more is considered significant. If there is no significant pressure change in 30 minutes from the time that the pressure source is disconnected from the annulus, the test may be completed as passed.

### Recordkeeping and Reporting

The test results must be recorded on the attached form. The annulus pressure should be recorded at five (5) minute intervals. Tests run by operators in the absence of an EPA inspector must be conducted according to these procedures and recorded on the attached form or an equivalent form and a pressure recording



chart documenting the actual annulus test pressures must be attached to the submittal. The tubing pressure at the beginning and end of each test must be recorded. The volume of the annulus fluid bled back at the surface after the test should be measured and recorded on the form. This can be done by bleeding the annulus pressure off and discharging the associated fluid into a five gallon container. The volume information can be used to verify the approximate location of the packer.

#### Procedures for Pressure Test

1. Scheduling the test should be done at least two (2) weeks in advance.
2. Information on the well completion (location of the packer, location of perforations, previous cement work on the casing, size of casing and tubing, etc.) and the results of the previous MIT test should be reviewed by the field inspector in advance of the test. Regional UIC Guidance #35 should also be reviewed. Information relating to the previous MIT and any well workovers should be reviewed and taken into the field for verification purposes.
3. All Class I wells and Class II SWD wells should be shut-in prior to the test. A 12 to 24-hour shut-in is preferable to assure that the temperature of the fluid in the wellbore is stable.
4. Class II enhanced recovery wells may be operating during the test, but it is recommended that the well be shut-in if possible.
5. The operator should fill the casing/tubing annulus with inhibited fluid at least 24 hours in advance, if possible. Filling the annulus should be undertaken through one valve with the second valve open to allow air to escape. After the operator has filled the annulus, a check should be made to assure that the annulus will remain full. If the annulus can not maintain a full column of fluid, the operator should notify the Director and begin a rework. The operator should measure and report the volume of fluid added to the annulus. If not already the case, the casing/tubing valves should be closed, at least, 24 hours prior to the pressure test.

Following steps are at the well:

6. Read tubing pressure and record on the form. If the





well is shut-in, the reported information on the actual maximum operating pressure should be used to determine test pressures.

7. Read pressure on the casing/tubing annulus and record value on the form. If there is pressure on the annulus, it should be bled off prior to the test. If the pressure will not bleed-off, the guidance on well failures (Region VIII UIC Section Guidance #35) should be followed.
8. Ask the operator for the date of the last workover and the volume of fluid added to the annulus prior to this test and record information on the form.
9. Hook-up well to pressure source and apply pressure until test value is reached.
10. Immediately disconnect pressure source and start test time (If there has been a significant drop in pressure during the process of disconnection, the test may have to be restarted). The pressure gages used to monitor injection tubing pressure and annulus pressure should have a pressure range which will allow the test pressure to be near the mid-range of the gage. Additionally, the gage must be of sufficient accuracy and scale to allow an accurate reading of a 10 percent change to be read. For instance, a test pressure of 600 psi should be monitored with a 0 to 1000 psi gage. The scale should be incremented in 20 psi increments.
11. Record tubing and annulus pressure values every five (5) minutes.
12. At the end of the test, record the final tubing pressure.
13. If the test fails, check the valves, bull plugs and casing head close up for possible leaks. The well should be retested.
14. If the second test indicates a well failure, the Region should be informed of the failure within 24 hours by the operator, and the well should be shut-in within 48 hours per Headquarters guidance #76. A follow-up letter should be prepared by the operator which outlines the cause of the MIT failure and proposes a potential course of action. This report should be submitted to EPA within five days.



15. Bleed off well into a bucket, if possible, to obtain a volume estimate. This should be compared to the calculated value obtained using the casing/tubing annulus volume and fluid compressibility values.
16. Return to office and prepare follow-up.

#### Alternative Test Option

While it is expected that the test procedure outlined above will be applicable to most wells, the potential does exist that unique circumstances may exist for a given well that precludes or makes unsafe the application of this test procedure. In the event that these exceptional or extraordinary conditions are encountered, the operator has the option to propose an alternative test or monitoring procedures. The request must be submitted by the operator in writing and must be approved in writing by the UIC-Implementation Section Chief or equivalent level of management.

Attachment



# Mechanical Integrity Test

## Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program, UIC Direct Implementation Program 8P-W-GW  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_  
Test conducted by: \_\_\_\_\_  
Others present: \_\_\_\_\_

Well Name: _____	Type: ER SWD	Status: AC TA UC
Field: _____		
Location: _____	Sec: _____ T _____ N/S R _____ E/W	County: _____ State: _____
Operator: _____		
Last MIT: ____/____/____	Maximum Allowable Pressure: _____	PSIG

Is this a regularly scheduled test? ☐ Yes ☐ No

Initial test for permit? ☐ Yes ☐ No

Test after well rework? ☐ Yes ☐ No

Well injecting during test? ☐ Yes ☐ No If Yes, rate: \_\_\_\_\_ bpd

Pre-test casing/tubing annulus pressure: \_\_\_\_\_ psig

MIT DATA TABLE		Test #1	Test #2	Test #3
<b>TUBING PRESSURE</b>				
Initial Pressure	psig	psig	psig	psig
End of test pressure	psig	psig	psig	psig
<b>CASING / TUBING ANNULUS PRESSURE</b>				
0 minutes	psig	psig	psig	psig
5 minutes	psig	psig	psig	psig
10 minutes	psig	psig	psig	psig
15 minutes	psig	psig	psig	psig
20 minutes	psig	psig	psig	psig
25 minutes	psig	psig	psig	psig
30 minutes	psig	psig	psig	psig
minutes	psig	psig	psig	psig
minutes	psig	psig	psig	psig
<b>RESULT</b>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Does the annulus pressure build back up after the test? ☐ Yes ☐ No

# Greater Boundary #7-27-8-17

Spud Date: 4/25/01  
Put on Production: 7/13/01  
GL: 5146' KB: 5156'

Initial Production: 117.9 BOPD,  
174.6 MCFD, 26.3 BWPD

## SURFACE CASING

CSG SIZE: 8-5/8"  
GRADE: J-55  
WEIGHT: 24#  
LENGTH: 7 jts. (298.66') *Base USDW @ 50'*  
DEPTH LANDED: 307.66'  
HOLE SIZE: 12-1/4"  
CEMENT DATA: 145 sxs Class "G" cmt, est 4 bbls cmt to surf

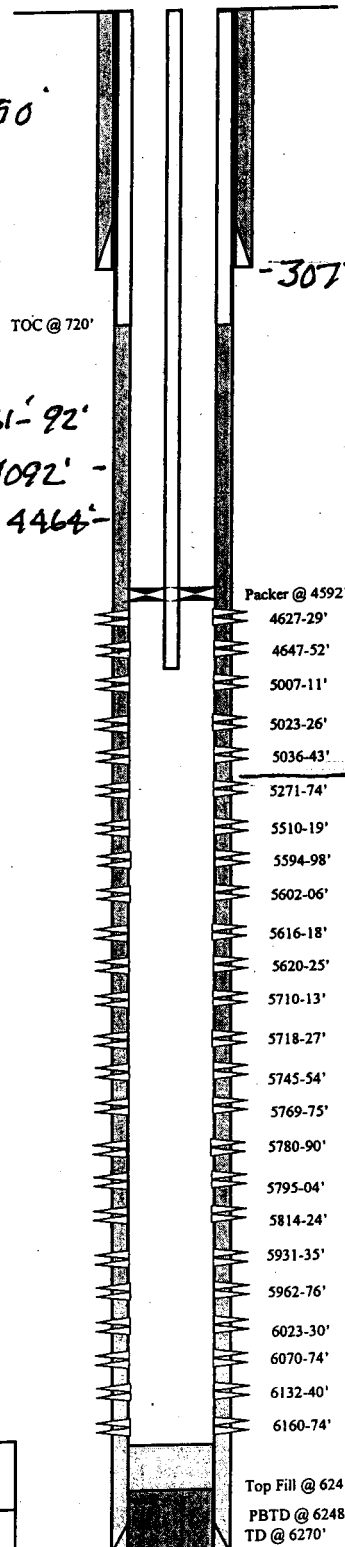
## PRODUCTION CASING

CSG SIZE: 5-1/2"  
GRADE: J-55 *Confining Zone 4061'-92'*  
WEIGHT: 15.5# *Garden Gulch 4092' -*  
LENGTH: 145 jts. (6273.53') *80% Bond 4136' - 4464'*  
DEPTH LANDED: 6269.13'  
HOLE SIZE: 7-7/8"  
CEMENT DATA: 390 sk Prem. Lite II mixed & 575 sxs 50/50 POZ.  
CEMENT TOP AT: 720'

## TUBING

SIZE/GRADE/WT.: 2-7/8" / J-55 / 6.5#  
NO. OF JOINTS: 186 jts (6041.40')  
TUBING ANCHOR: 6051.40' KB  
NO. OF JOINTS: 2 jts (64.98')  
SEATING NIPPLE: 2-7/8" (1.10')  
SN LANDED AT: 6119.18' KB  
NO. OF JOINTS: 1 jt (32.49')  
TOTAL STRING LENGTH: EOT @ 6153.22' KB

## Proposed Injection Wellbore Diagram



## FRAC JOB

7/3/01 5931'-6174' **Frac CP sand as follows:**  
213,203# 20/40 sand in 1297 bbls Viking  
1-25 fluid. Treated @ avg press of 1670  
psi w/avg rate of 32.4 BPM. ISIP 2060  
psi. Flowed 10.5 hrs then died. NOTE:  
Fraced with radioactively tagged sands.

7/5/01 5710'-5824' **Frac LODC sand as follows:**  
471,789# 20/40 sand in 2777 bbls Viking  
1-25 fluid. Treated @ avg press of 2430  
psi w/avg rate of 29.7 BPM. ISIP 2680  
psi. Flowed 12.5 hrs then died. NOTE:  
Fraced with radioactively tagged sands.

7/6/01 5510'-5625' **Frac A sand as follows:**  
154,860# 20/40 sand in 905 bbls Viking  
1-25 fluid. Treated @ avg press of 2435  
psi w/avg rate of 30.5 BPM. ISIP 2140  
psi. Flowed 10.5 hrs then died.

7/9/01 5007'-5274' **Frac C & D sand as follows:**  
75,190# 20/40 sand in 571 bbls Viking  
1-25 fluid. Treated @ avg press of 1850  
psi w/avg rate of 31.5 BPM. ISIP 2230  
psi. Flowed 6 hrs then died.

7/10/01 4627'-4652' **Frac GB sand as follows:**  
33,180# 20/40 sand in 304 bbls Viking  
1-25 fluid. Treated @ avg press of 1900  
psi w/avg rate of 24 BPM. ISIP 1900  
psi. Flowed 3.5 hrs then died.

10/4/01 Pimp change. Update Rod and tubing details.

## PERFORATION RECORD

Date	Depth (ft)	Length (ft)	Tool Joint	Holes
7/2/01	6160'-6174'	3	JSPF	42 holes
7/2/01	6132'-6140'	3	JSPF	24 holes
7/2/01	6070'-6074'	3	JSPF	12 holes
7/2/01	6023'-6030'	3	JSPF	21 holes
7/2/01	5962'-5976'	3	JSPF	42 holes
7/2/01	5931'-5935'	3	JSPF	12 holes
7/5/01	5814'-5824'	3	JSPF	30 holes
7/5/01	5795'-5804'	3	JSPF	27 holes
7/5/01	5780'-5790'	3	JSPF	30 holes
7/5/01	5769'-5775'	3	JSPF	18 holes
7/5/01	5745'-5754'	3	JSPF	27 holes
7/5/01	5718'-5727'	3	JSPF	27 holes
7/5/01	5710'-5713'	3	JSPF	9 holes
7/6/01	5620'-5625'	4	JSPF	20 holes
7/6/01	5616'-5618'	4	JSPF	8 holes
7/6/01	5602'-5606'	4	JSPF	16 holes
7/6/01	5594'-5598'	4	JSPF	16 holes
7/6/01	5510'-5519'	4	JSPF	36 holes
7/9/01	5271'-5274'	4	JSPF	12 holes
7/9/01	5036'-5043'	4	JSPF	28 holes
7/9/01	5023'-5026'	4	JSPF	12 holes
7/9/01	5007'-5011'	4	JSPF	16 holes
7/10/01	4647'-4652'	4	JSPF	20 holes
7/10/01	4627'-4629'	4	JSPF	8 holes

Top Fill @ 6241'  
PBTB @ 6248'  
TD @ 6270'

*5138' Douglas Creek*

*Est. 6316' Bassel Carbonate*  
*Est. 6441' Wasatch*



Inland Resources Inc.

Greater Boundary #7-27-8-17

2085' FNL & 2203' FEL

SW/NE Section 27-T8S-R17E

Duchesne Co, Utah

API #43-013-32232; Lease #UTU-76241

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0135  
Expires January 31, 2004

**SUNDRY NOTICES AND REPORTS ON WELLS**  
Do not use this form for proposals to drill or to re-enter an  
abandoned well. Use Form 3160-3 (APD) for such proposals.

**SUBMIT IN TRIPLICATE - Other Instructions on reverse side**

1. Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator  
Newfield Production Company

3a. Address Route 3 Box 3630  
Myton, UT 84052

3b. Phone No. (include area code)  
435.646.3721

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
2085 FNL 2203 FEL  
SW/NE Section 27 T8S R17E

5. Lease Serial No.

UTU76241

6. If Indian, Allottee or Tribe Name.

7. If Unit or CA/Agreement, Name and/or No.  
GREATER BOUNDARY II

8. Well Name and No.  
GREATER BOUNDARY 7-27-8-17

9. API Well No.  
4301332232

10. Field and Pool, or Exploratory Area  
Monument Butte

11. County or Parish, State  
Duchesne, UT

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug & Abandon	<input type="checkbox"/> Temporarily Abandon	Injection Conversion/MIT
	<input type="checkbox"/> Convert to Injector	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The subject well was converted from a producing to an injection well on 8-3-05. The rods and tubing anchor were removed and a packer was inserted in bottom hole assembly at 4562'. On 8-24-05 Dan Jackson with the EPA was contacted concerning the initial MIT on the above listed well. Permission was given at that time to perform the test on 8-25-05. On 8-25-05 the csg was pressured up to 1350 psig and charted for 30 minutes with no pressure loss. The well was not injecting during the test. The tbp pressure was 225 psig during the test. There was not an EPA representative available to witness the test. EPA # UT20702-06485 API #43-013-32232.

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
**FOR RECORD ONLY**

I hereby certify that the foregoing is true and correct

Name (Printed/ Typed)  
Kathy Chapman

Title

Office Manager

Signature



Date

08/26/2005

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious and fraudulent statements or representations as to any matter within its jurisdiction

(Instructions on reverse)

RECEIVED

SEP 01 2005

DIV OF OIL, GAS & MINING

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

EPA

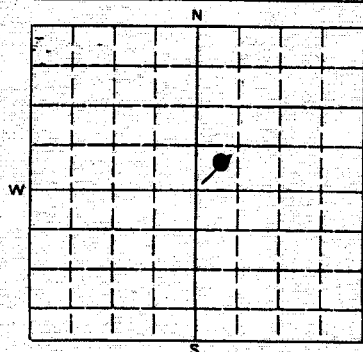
## WELL REWORK RECORD

## NAME AND ADDRESS OF PERMITTEE

Newfield Production Company  
410 17th Street, Suite 700  
Denver, Colorado 80202-4402

## NAME AND ADDRESS OF CONTRACTOR

Same as Permittee

LOCATE WELL AND OUTLINE UNIT ON  
SECTION PLAT — 640 ACRES

STATE

Utah

COUNTY

Duchesne

PERMIT NUMBER

UTU-76241

## SURFACE LOCATION DESCRIPTION

% OF SW % OF NE SECTION 27 TOWNSHIP 8 RANGE 17

## LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

 Surface Location 2085 ft. from (N/S) N Line of quarter section  
 and 2203 ft. from (E/W) E Line of quarter section

## WELL ACTIVITY

- ☐
- Brine Disposal
- 
- ☒
- Enhanced Recovery
- 
- ☐
- Hydrocarbon Storage

Lease Name

Greater Boundary

Total Depth Before Rework

6248'

Total Depth After Rework

6248'

Date Rework Commenced

8/1/2005

Date Rework Completed

8/3/2005

## TYPE OF PERMIT

- ☒
- Individual
- 
- ☐
- Area
- 
- Number of Wells 1

Well Number

7-27-8-17

## WELL CASING RECORD -- BEFORE REWORK

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	
8-5/8"	308	145	Class G	5931	6174	Perf CP sds and fraced
5-1/2"	6269	390	Prem Lite II	5710	5824	Perf LODC sds and fraced
		575	50/50	5510	5625	Perf A sds and fraced
				5007	5274	Perf C&D sds and fraced
				4627	4652	Perf GB sds and fraced

## WELL CASING RECORD -- AFTER REWORK (Indicate Additions and Changes Only)

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	

DESCRIBE REWORK OPERATIONS IN DETAIL  
USE ADDITIONAL SHEETS IF NECESSARY

## WIRE LINE LOGS, LIST EACH TYPE

Log Types

Logged Intervals

See attached "Daily Workover Report"

## CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

NAME AND OFFICIAL TITLE (Please type or print)

Kathy Chapman  
Office Manager

SIGNATURE

DATE SIGNED

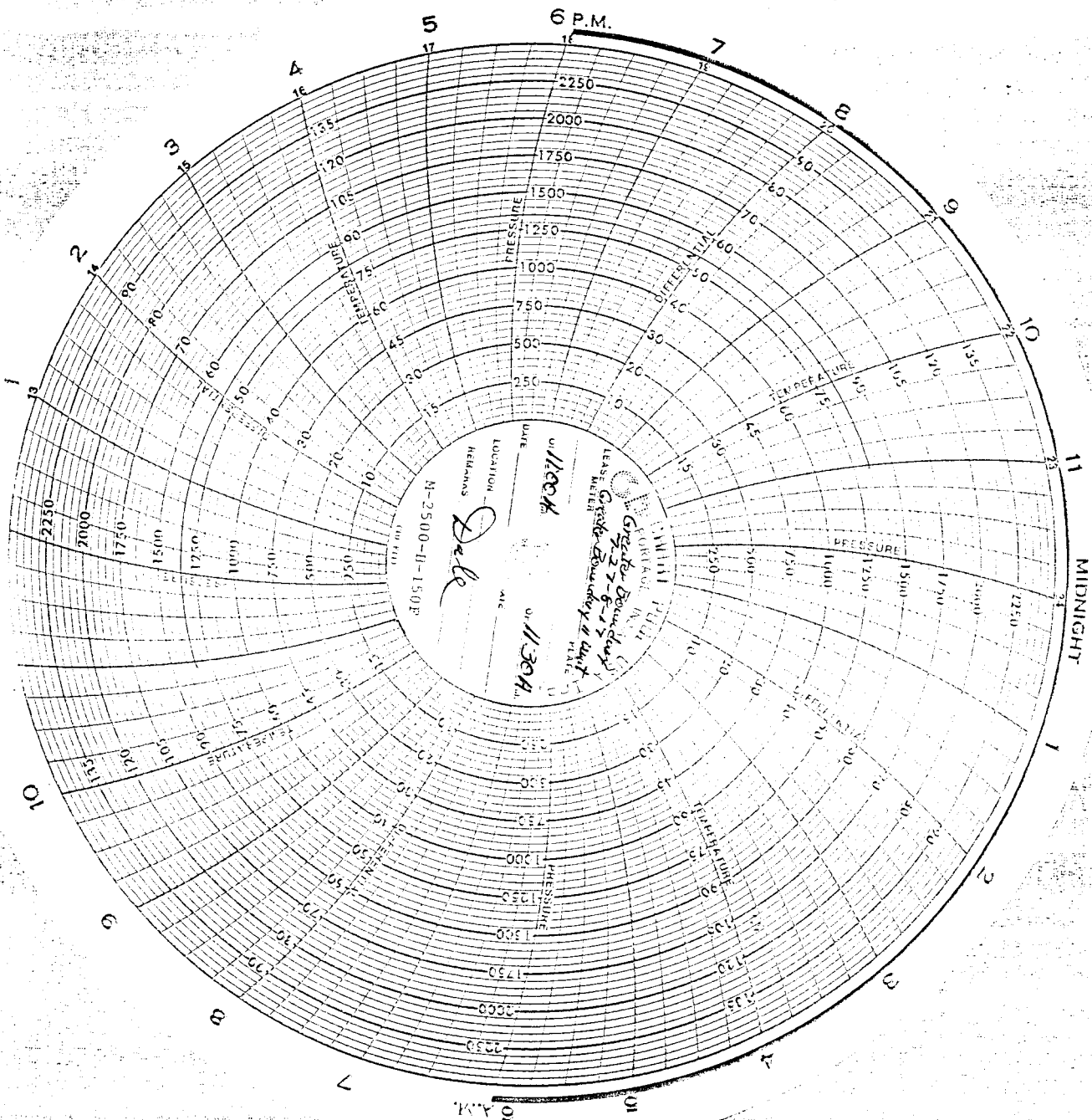
August 26, 2005

EPA Form 7520-12 (2-84)

RECEIVED

SEP 01 2005

DIV. OF OIL, GAS &amp; MINING



# Mechanical Integrity Test

## Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Test conducted by: Jale Giles

Others present: \_\_\_\_\_

Well Name: <u>Greater Boundary 7-27-8-17</u>		Type: <u>ER SWD</u>	Status: <u>AC TA UC</u>
Field: <u>Greater Boundary II unit</u>			
Location: _____	Sec: <u>27 T 8 N 10 R 17 E</u>	County: <u>Duchesne</u>	State: <u>Ut.</u>
Operator: <u>Newfield Production Co.</u>			
Last MIT: ____/____/____	Maximum Allowable Pressure: _____		PSIG

Is this a regularly scheduled test?    ☐ Yes    ☐ No  
 Initial test for permit?                ☒ Yes    ☐ No  
 Test after well rework?                ☐ Yes    ☐ No  
 Well injecting during test?            ☐ Yes    ☐ No    If Yes, rate: \_\_\_\_\_ bpd

Pre-test casing/tubing annulus pressure: 0 psig

MIT DATA TABLE	Test #1	Test #2	Test #3
<b>TUBING PRESSURE</b>			
Initial Pressure	<u>225</u> psig	psig	psig
End of test pressure	<u>225</u> psig	psig	psig
<b>CASING / TUBING ANNULUS PRESSURE</b>			
0 minutes	<u>1350</u> psig	psig	psig
5 minutes	<u>1350</u> psig	psig	psig
10 minutes	<u>1350</u> psig	psig	psig
15 minutes	<u>1350</u> psig	psig	psig
20 minutes	<u>1350</u> psig	psig	psig
25 minutes	<u>1350</u> psig	psig	psig
30 minutes	<u>1350</u> psig	psig	psig
_____ minutes	psig	psig	psig
_____ minutes	psig	psig	psig
<b>RESULT</b>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Does the annulus pressure build back up after the test?    ☐ Yes    ☒ No

## MECHANICAL INTEGRITY PRESSURE TEST

Additional comments for mechanical integrity pressure test, such as volume of fluid added to annulus and bled back at end of test, reason for failing test (casing head leak, tubing leak, other), etc.:

Signature of Witness: \_\_\_\_\_



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**SUNDRY NOTICES AND REPORTS ON WELLS**  
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abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED  
OMB No. 1004-0135  
Expires January 31, 2004

**SUBMIT IN TRIPLICATE - Other Instructions on reverse side**

1. Type of Well

☐ Oil Well ☐ Gas Well ☒ Other Injection well

2. Name of Operator

Newfield Production Company

3a. Address Route 3 Box 3630

Myton, UT 84052

3b. Phone No. (include area code)

435.646.3721

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

2085 FNL 2203 FEL

SW/NE Section 27 T8S R17E

5. Lease Serial No.

UTU76241

6. If Indian, Allottee or Tribe Name.

7. If Unit or CA/Agreement, Name and/or No.

GREATER BOUNDARY II

8. Well Name and No.

GREATER BOUNDARY 7-27-8-17

9. API Well No.

4301332232

10. Field and Pool, or Exploratory Area  
Monument Butte

11. County or Parish, State

Duchesne, UT

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
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<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug & Abandon	<input type="checkbox"/> Temporarily Abandon	Change Status, Put Well
	<input checked="" type="checkbox"/> Convert to Injector	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	on Injection

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The above referenced well was put on injection at 2:00 p.m. on 9/27/05.

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY

RECEIVED  
SEP 30 2005

I hereby certify that the foregoing is true and correct

Name (Printed/Typed)  
Mandie Crozier

Title

Regulatory Specialist

Signature

Date

09/29/2005

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious and fraudulent statements or representations as to any matter within its jurisdiction

(Instructions on reverse)

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING


<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> <small>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.</small>			5. LEASE DESIGNATION AND SERIAL NUMBER: UTU76241
1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> Injection well			6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: Newfield Production Company			7. UNIT or CA AGREEMENT NAME: GREATER BOUNDARY II
3. ADDRESS OF OPERATOR: Route 3 Box 3630 CITY Myton STATE UT ZIP 84052			8. WELL NAME and NUMBER: GREATER BOUNDARY 7-27-8-17
4. LOCATION OF WELL: FOOTAGES AT SURFACE: 2085 FNL 2203 FEL			9. API NUMBER: 4301332232
OTR/OTR. SECTION, TOWNSHIP, RANGE, MERIDIAN: SW/NE, 27, T8S, R17E			10. FIELD AND POOL, OR WILDCAT: Monument Butte
			COUNTY: Duchesne
			STATE: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
	SubDate		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will  _____	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION (START/STOP) <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARITLY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLAIR <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUT-OFF <input checked="" type="checkbox"/> OTHER: - Step Rate Test
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of Work Completion  01/12/2006			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

A step rate test was conducted on the subject well on January 4, 2006. Results from the test indicate that the fracture gradient is .744 psi/ft. Therefore, Newfield is requesting that the maximum allowable injection pressure (MAIP) be changed to 1430 psi.

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY

NAME (PLEASE PRINT) <u>Cheyenne Batemen</u>	TITLE <u>Well Analyst Foreman</u>
SIGNATURE <u></u>	DATE <u>01/12/2006</u>

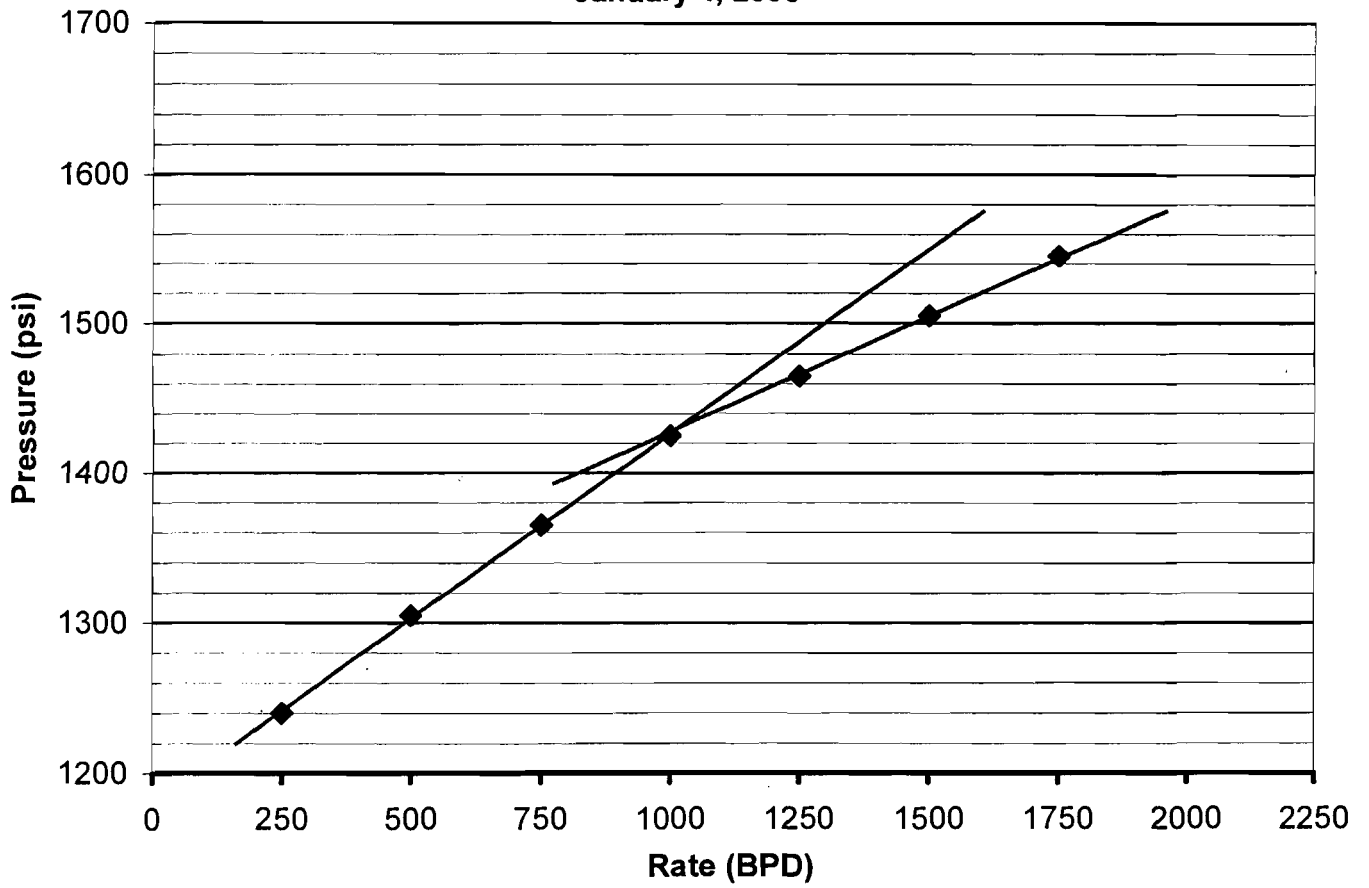
(This space for State use only)

RECEIVED

JAN 13 2006

DIV. OF OIL, GAS & MINING

**Greater Boundary 7-27-8-17**  
**Greater Boundary II Unit**  
**Step Rate Test**  
**January 4, 2006**



**Start Pressure:** 1170 psi  
**Instantaneous Shut In Pressure (ISIP):** 1490 psi  
**Top Perforation:** 4627 feet  
**Fracture pressure (P<sub>fp</sub>):** 1430 psi  
**FG:** 0.744 psi/ft

Step	Rate(bpd)	Pressure(psi)
1	250	1240
2	500	1305
3	750	1365
4	1000	1425
5	1250	1465
6	1500	1505
7	1750	1545

## Step Rate Test (SRT) Analysis

Date: 01/12/2006

Operator:

Newfield Production Company

Well:

Monument State 24-2-9-17

Permit #:

UT20776-06608

Enter the following data :

Specific Gravity (sg) of injectate = 1.005 g/cc

Depth to top perforation (D) = 4078 feet

Top of permitted injection zone depth (blank=use top perforation to calculate sg) = \_\_\_\_\_ feet

Estimated Formation Parting Pressure (Pfp) from SRT chart = 1585 psi

Instantaneous Shut In Pressure (ISIP) from SRT = 1630 psi

Bottom Hole Parting Pressure (Pbhp) from downhole pressure recorder = \_\_\_\_\_ psi

### Part One - Calculation of Fracture Gradient (fg)

Calculated Fracture Gradient = 0.824 psi/ft.

where:  $fg = Pbhp / D$  (Note: this formula uses the downhole recorded bottom hole parting pressure if available) =

D = depth used = 4078

Pbhp used = 3360

Calculated Bottom Hole Parting Pressure (Pbhp) = 3360 psi

to calculate Bottom Hole Parting Pressure (Pbhp) = Formation Fracture Pressure (ISIP or Pfp) + (0.433 \* SG \* D)

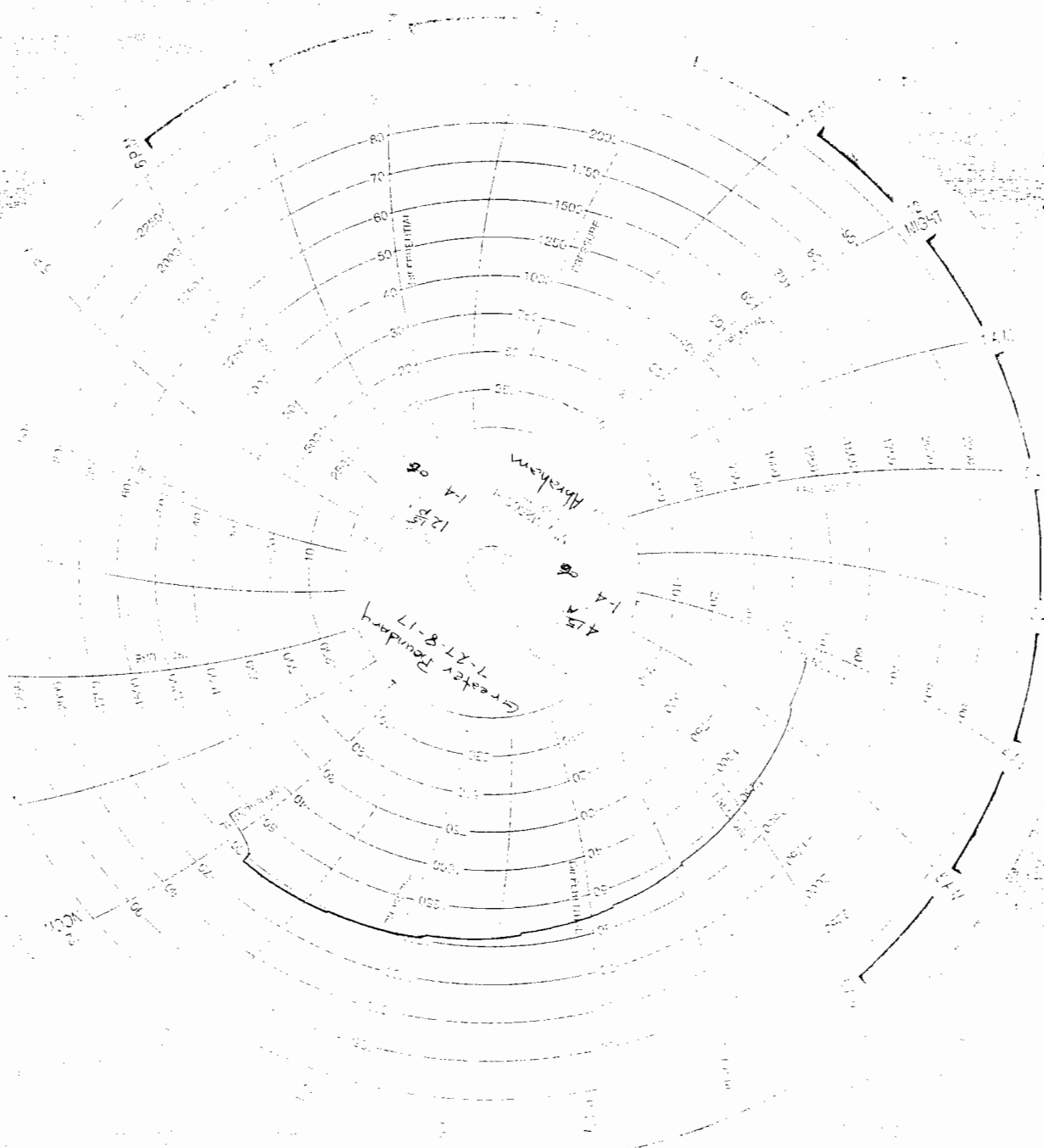
(Uses lesser of ISIP or Pfp) Value used = 1585

### Part Two - Calculation of Maximum Allowable Injection Pressure (MAIP)

Maximum Allowable Injection Pressure (MAIP) = 1585 psig  
(rounded to nearest 5 psig)

D = depth used = 4078

MAIP =  $[fg - (0.433 * SG)] * D = 1585.669$



STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:  
USA UTU-76241

**SUNDRY NOTICES AND REPORTS ON WELLS**

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1. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ OTHER ☐

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:  
GMBU

2. NAME OF OPERATOR:  
NEWFIELD PRODUCTION COMPANY

8. WELL NAME and NUMBER:  
GREATER BOUNDARY 7-27-8-17

3. ADDRESS OF OPERATOR: Route 3 Box 3630 CITY Myton STATE UT ZIP 84052 PHONE NUMBER 435.646.3721

9. API NUMBER:  
4301332232

4. LOCATION OF WELL:  
FOOTAGES AT SURFACE: 2085 FNL 2203 FEL

10. FIELD AND POOL, OR WILDCAT:  
GREATER MB UNIT

COUNTY: DUCHESNE

OTR/OTR. SECTION. TOWNSHIP. RANGE. MERIDIAN: SWNE, 27, T8S, R17E

STATE: UT

**CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARITLY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLAIR
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of Work Completion:	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
08/24/2010	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/STOP)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: - Five Year MIT
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

On 08/23/2010 Nathan Wiser with the EPA was contacted concerning the 5 year MIT on the above listed well. On 08/24/2010 the casing was pressured up to 1095 psig and charted for 30 minutes with no pressure loss. The well was not injecting during the test. The tubing pressure was 1343 psig during the test. There was not an EPA representative available to witness the test.

EPA# UT20702-06485 API# 43-013-32232

Accepted by the  
Division of  
Oil, Gas and Mining  
**FOR RECORD ONLY**

NAME (PLEASE PRINT) Lucy Chavez-Naupoto

TITLE Administrative Assistant

SIGNATURE

DATE 08/25/2010

(This space for State use only)

RECEIVED

SEP 07 2010

DIV. OF OIL, GAS & MINING

# Mechanical Integrity Test

## Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_ Date: 8 124 110

Test conducted by: Rusty Bird

Others present: \_\_\_\_\_

Well Name: <u>Greater Boundary Federal 7-27-B-17</u> Type: <u>ER SWD</u> Status: <u>AC TA UC</u>	
Field: <u>Monument Butte</u>	
Location: <u>SW/NE</u> Sec: <u>27</u> T <u>B</u> N <u>15</u> R <u>17</u> E W County: <u>Duchesne</u> State: <u>Ut</u>	
Operator: <u>Newfield</u>	
Last MIT: <u>      </u> / <u>      </u> / <u>      </u>	Maximum Allowable Pressure: <u>      </u> PSIG

Is this a regularly scheduled test? ☒ Yes ☐ No  
 Initial test for permit? ☐ Yes ☒ No  
 Test after well rework? ☐ Yes ☒ No  
 Well injecting during test? ☐ Yes ☒ No If Yes, rate: \_\_\_\_\_ bpd

Pre-test casing/tubing annulus pressure: 0 psig

MIT DATA TABLE	Test #1	Test #2	Test #3
<b>TUBING PRESSURE</b>			
Initial Pressure	<u>1343</u> psig	psig	psig
End of test pressure	<u>1343</u> psig	psig	psig
<b>CASING / TUBING ANNULUS PRESSURE</b>			
0 minutes	<u>1095</u> psig	psig	psig
5 minutes	<u>1095</u> psig	psig	psig
10 minutes	<u>1095</u> psig	psig	psig
15 minutes	<u>1095</u> psig	psig	psig
20 minutes	<u>1095</u> psig	psig	psig
25 minutes	<u>1095</u> psig	psig	psig
30 minutes	<u>1095</u> psig	psig	psig
_____ minutes	psig	psig	psig
_____ minutes	psig	psig	psig
<b>RESULT</b>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

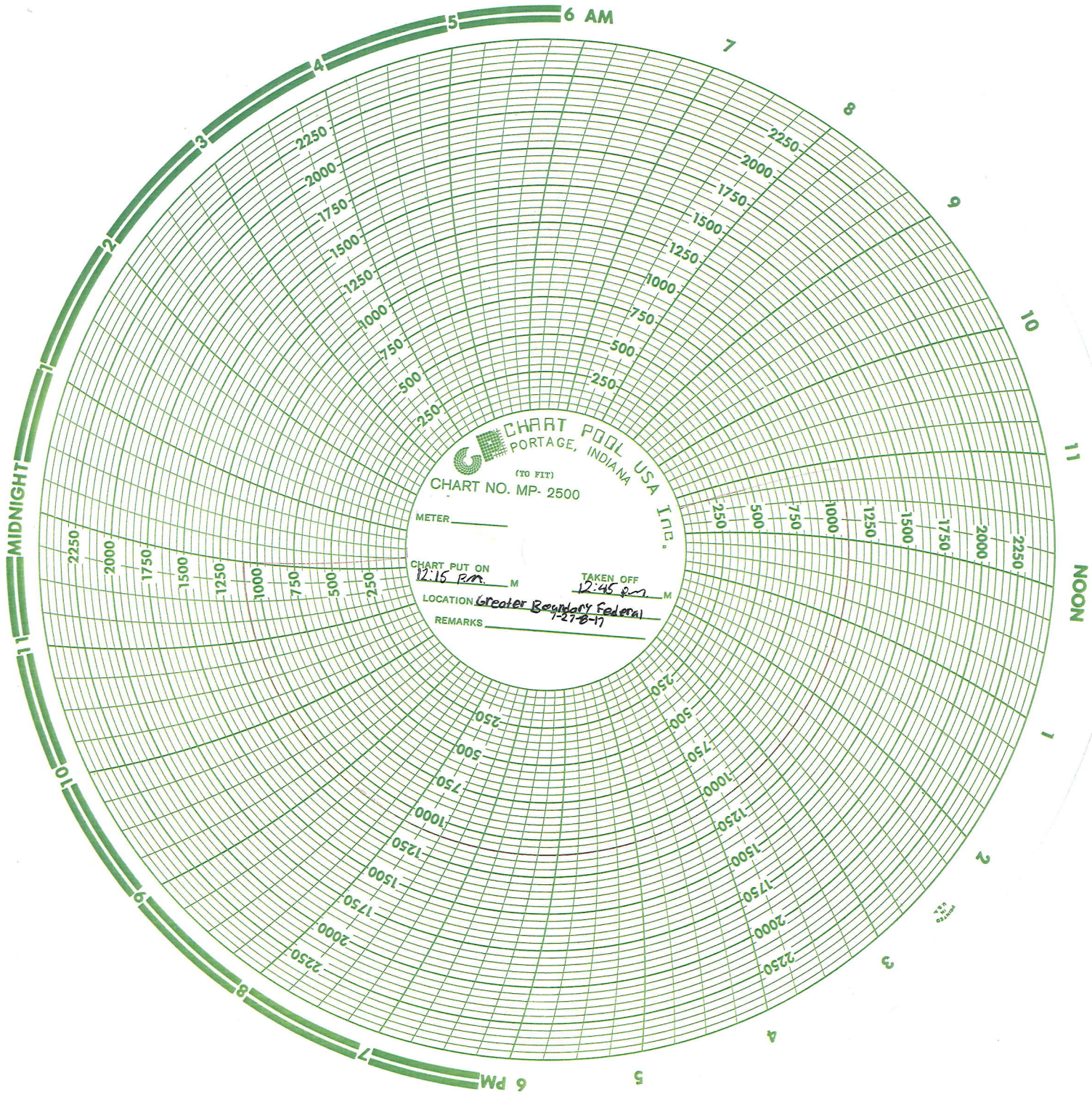
Does the annulus pressure build back up after the test? ☐ Yes ☒ No

## MECHANICAL INTEGRITY PRESSURE TEST

Additional comments for mechanical integrity pressure test, such as volume of fluid added to annulus and bled back at end of test, reason for failing test (casing head leak, tubing leak, other), etc.:

Signature of Witness: Rusty Bird







<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU-76241
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>1. TYPE OF WELL</b> Water Injection Well		<b>7. UNIT or CA AGREEMENT NAME:</b> GMBU (GRRV)
<b>2. NAME OF OPERATOR:</b> NEWFIELD PRODUCTION COMPANY		<b>8. WELL NAME and NUMBER:</b> GBU 7-27-8-17
<b>3. ADDRESS OF OPERATOR:</b> Rt 3 Box 3630 , Myton, UT, 84052		<b>9. API NUMBER:</b> 43013322320000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2085 FNL 2203 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 27 Township: 08.0S Range: 17.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> MONUMENT BUTTE
		<b>COUNTY:</b> DUCHESNE
		<b>STATE:</b> UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION	<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <b>7/16/2015</b>  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input type="checkbox"/> DRILLING REPORT Report Date:
	<input checked="" type="checkbox"/> OTHER	OTHER: <input type="text" value="5 YR MIT"/>		

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

5 YR MIT performed on the above listed well. On 07/16/2015 the casing was pressured up to 1615 psig and charted for 30 minutes with no pressure loss. The well was not injecting during the test. The tbq pressure was 1302 psig during the test. There was not an EPA representative available to witness the test. EPA #UT22197-06485

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 July 20, 2015

<b>NAME (PLEASE PRINT)</b> Lucy Chavez-Naupoto	<b>PHONE NUMBER</b> 435 646-4874	<b>TITLE</b> Water Services Technician
<b>SIGNATURE</b> N/A		<b>DATE</b> 7/17/2015

# Mechanical Integrity Test

## Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_

Date: 7 / 16 / 2015Test conducted by: Shannon Lazenby

Others present: \_\_\_\_\_

Well Name: <u>Greater Boundary 7-27-8-17</u>	Type: <u>ER SWD</u>	Status: <u>AC TA UC</u>
Field: <u>Greater Monument Butte</u>		
Location: <u>7-27-8-17</u>	Sec: <u>27</u>	T <u>85</u> N/S R <u>17</u> E/W County: <u>Duchesne</u> State: <u>ut</u>
Operator: <u>Shannon Lazenby</u>		
Last MIT: <u>1</u> / <u>1</u>	Maximum Allowable Pressure: <u>1344</u>	PSIG

Is this a regularly scheduled test?

☒ Yes ☐ No

Initial test for permit?

☐ Yes ☐ No

Test after well rework?

☐ Yes ☐ No

Well injecting during test?

☐ Yes ☒ No

If Yes, rate: \_\_\_\_\_ bpd

Pre-test casing/tubing annulus pressure: 0 / 1302 psig

MIT DATA TABLE	Test #1	Test #2	Test #3
<b>TUBING PRESSURE</b>			
Initial Pressure	<u>1302</u> psig	psig	psig
End of test pressure	<u>1302</u> psig	psig	psig
<b>CASING / TUBING ANNULUS PRESSURE</b>			
0 minutes	<u>1614.6</u> psig	psig	psig
5 minutes	<u>1614.6</u> psig	psig	psig
10 minutes	<u>1615.2</u> psig	psig	psig
15 minutes	<u>1614.8</u> psig	psig	psig
20 minutes	<u>1615.0</u> psig	psig	psig
25 minutes	<u>1614.8</u> psig	psig	psig
30 minutes	<u>1614.8</u> psig	psig	psig
_____ minutes	psig	psig	psig
_____ minutes	psig	psig	psig
<b>RESULT</b>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

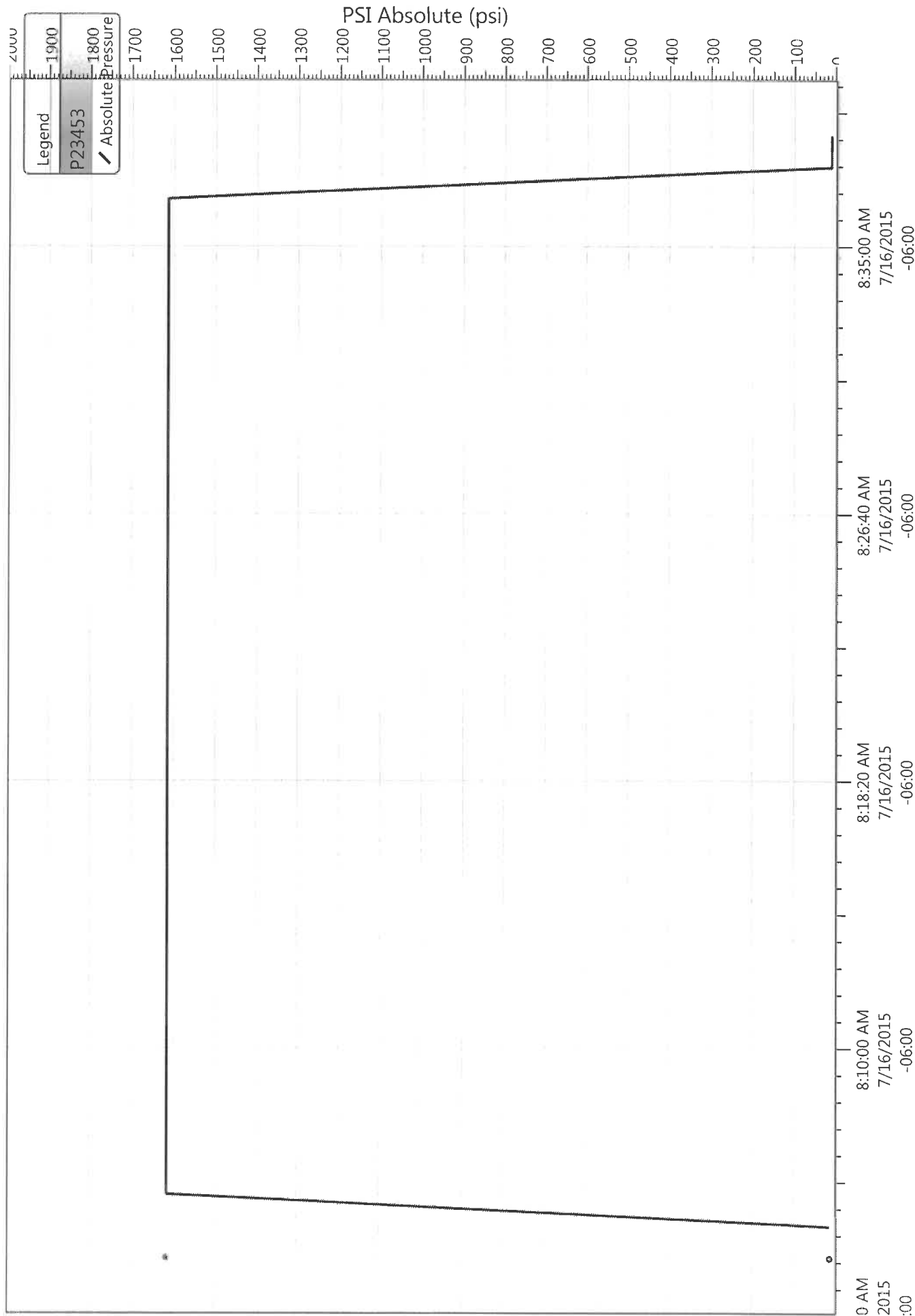
Does the annulus pressure build back up after the test ? ☐ Yes ☐ No

## MECHANICAL INTEGRITY PRESSURE TEST

Additional comments for mechanical integrity pressure test, such as volume of fluid added to annulus and bled back at end of test, reason for failing test (casing head leak, tubing leak, other), etc.:

Signature of Witness: \_\_\_\_\_

7-27-8-17 5 yr MIT  
7/16/2015 8:02:58 AM



Spud Date: 4/25/01  
Put on Production: 7/13/01  
GL: 5146' KB 5156'

# Greater Boundary 7-27-8-17

Initial Production: 117.9 BOPD,  
174.6 MCFD, 26.3 BWPD

## SURFACE CASING

CSG SIZE: 8-5/8"  
GRADE: J-55  
WEIGHT: 24#  
LENGTH: 7 jts (298.66')  
DEPTH LANDED: 307.66'  
HOLE SIZE: 12-1/4"  
CEMENT DATA: 145 sxs Class "G" cement, est 4 bbls cement to surf

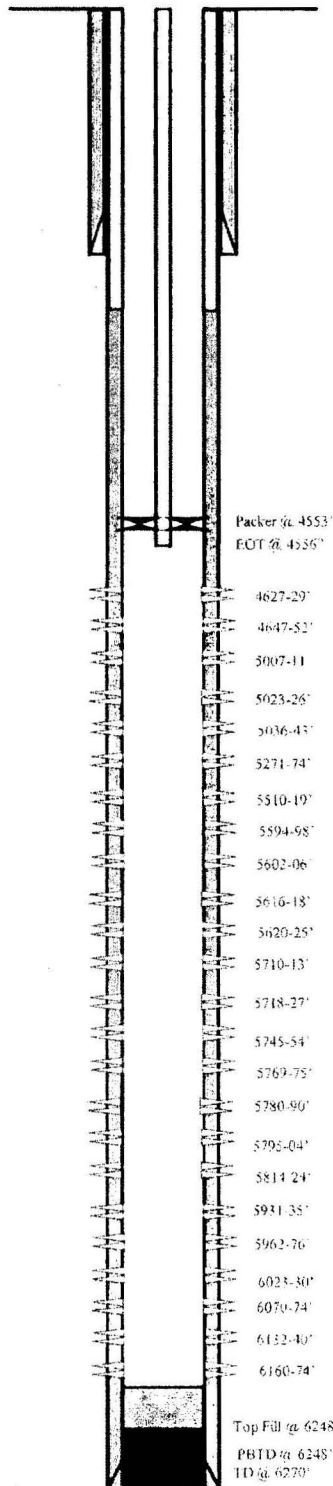
## PRODUCTION CASING

CSG SIZE: 5-1/2"  
GRADE: J-55  
WEIGHT: 15.5#  
LENGTH: 145 jts (6273.53')  
DEPTH LANDED: 6269.13'  
HOLE SIZE: 7-7/8"  
CEMENT DATA: 390 sk Prem. Lite II mixed & 575 sxs 50/50 POZ.  
CEMENT TOP AT: 720'

## TUBING

SIZE/GRADE/WT: 2-7/8" / J-55 / 6.5#  
NO OF JOINTS: 140 jts (4547.39')  
SPACING NIPPLE: 2-7/8" (1.10')  
SYN LANDED AT: 4547.9' KB  
PACKER: 4553' KB  
TOTAL STRING LENGTH: EOT @ 4556' KB

Injection Wellbore  
Diagram



## FRAC JOB

7/3/01 5931'-6174' **Frac CP sand as follows:**  
213,203# 20/40 sand in 1297 bbls Viking  
1-25 fluid. Treated @ avg press of 1670  
psi w/avg rate of 52.4 BPM. ISIP 2060  
psi. Flowed 10.5 hrs then died. NOTE:  
Fraced with radioactively tagged sands.

7/5/01 5710'-5824' **Frac LODC sand as follows:**  
471,789# 20/40 sand in 2777 bbls Viking  
1-25 fluid. Treated @ avg press of 2430  
psi w/avg rate of 29.7 BPM. ISIP 2680  
psi. Flowed 12.5 hrs then died. NOTE:  
Fraced with radioactively tagged sands.

7/6/01 5510'-5625' **Frac A sand as follows:**  
134,360# 20/40 sand in 905 bbls Viking  
1-25 fluid. Treated @ avg press of 2435  
psi w/avg rate of 30.5 BPM. ISIP 2140  
psi. Flowed 10.5 hrs then died.

7/9/01 5007'-5274' **Frac C & D sand as follows:**  
75,190# 20/40 sand in 571 bbls Viking  
1-25 fluid. Treated @ avg press of 1850  
psi w/avg rate of 31.5 BPM. ISIP 2230  
psi. Flowed 6 hrs then died.

7/10/01 4627'-4652' **Frac GB sand as follows:**  
33,130# 20/40 sand in 304 bbls Viking  
1-25 fluid. Treated @ avg press of 1900  
psi w/avg rate of 24 BPM. ISIP 1900  
psi. Flowed 3.5 hrs then died.

10/4/01 **Pump change. Update Rod and tubing details**  
8-3-05 **Converted to Injection Updated top details.**  
8-31-09 **5yr MIT**  
10-03-10 **Well Stimulation**

## PERFORATION RECORD

Date	Depth Range	ISPF	Holes
7/2/01	6160'-6174'	3 ISPF	42 holes
7/2/01	6132'-6140'	3 ISPF	24 holes
7/2/01	6070'-6074'	3 ISPF	12 holes
7/2/01	6023'-6030'	3 ISPF	21 holes
7/2/01	5962'-5976'	3 ISPF	42 holes
7/2/01	5931'-5935'	3 ISPF	12 holes
7/5/01	5814'-5824'	3 ISPF	30 holes
7/5/01	5795'-5804'	3 ISPF	27 holes
7/5/01	5780'-5790'	3 ISPF	30 holes
7/5/01	5769'-5775'	3 ISPF	18 holes
7/5/01	5745'-5754'	3 ISPF	27 holes
7/5/01	5713'-5727'	3 ISPF	27 holes
7/5/01	5710'-5713'	3 ISPF	9 holes
7/6/01	5620'-5625'	4 ISPF	20 holes
7/6/01	5616'-5618'	4 ISPF	8 holes
7/6/01	5602'-5606'	4 ISPF	16 holes
7/6/01	5594'-5598'	4 ISPF	16 holes
7/6/01	5510'-5519'	4 ISPF	36 holes
7/9/01	5271'-5274'	4 ISPF	12 holes
7/9/01	5036'-5043'	4 ISPF	24 holes
7/9/01	5023'-5026'	4 ISPF	12 holes
7/9/01	5007'-5011'	4 ISPF	16 holes
7/10/01	4647'-4652'	4 ISPF	20 holes
7/10/01	4627'-4629'	4 ISPF	8 holes



**Greater Boundary 7-27-8-17**  
2085' FNL & 2203' FEL  
SW/NE Section 27-T8S-R17E  
Duchesne Co, Utah  
API #43-013-32232; Lease #UTU-76241